ORDER NO. TSD81070013C

Service Manual

FM/AM/FM STEREO WITH CASSETTE TAPE DECK

Stereo Music Centre

SG-40

DOLBY SYSTEM

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*Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.

SPECIFICATIONS ENGLISH

AMPLIFIER SECTION

Power Output:	
MPO	35W x 2 (THD 1%, 4Ω)
RMS	27W x 2 (THD 1%, 4Ω)
	25W x 2 (THD 0.8%, 4Ω)
	One channel driven
RMS	22W x 2 (THD 1%, 4Ω)
	20W x 2 (THD 0.8%, 4Ω)
	Both channel driven
Frequency Response	30 Hz ~ 40 kHz, ±1.5 dB (DIN)
Power Band Width	25 Hz ~ 25 kHz, -3 dB (DIN) (THD 0.9%, 4Ω)
Input Sensitivity & Impedance:	
Mic	1 mV, 3kΩ
Aux	150 mV, 47kΩ
Phono	2.5 mV, 47kΩ
Rec Out & Impedance	150 mV, 2.2kΩ
Tone Controls:	
Bass	±10 dB at 50 Hz
Treble	±10 dB at 15 kHz
Loudness Control	+10 dB at 50 Hz (Volume at -30 dB position)

FM TUNER SECTION

Tuning System	Varactor Diode (6 pre-selectors and 1 manual tuning)
Frequency Range	87.5 MHz ~ 108 MHz
Intermediate Frequency (IF)	10.7 MHz
Sensitivity	2.0μV (S/N 26 dB mod. 40 kHz) (DIN) at 75Ω
	2.0μV (IHF) at 75Ω
Image Ratio	50 dB (98 MHz)
Signal/Noise Ratio	63 dB (at 1 kHz, 60 dB, 40 kHz)
Distortion:	
MONO	0.16% (at 1 kHz, 60 dB, 40 kHz)
STEREO	0.22% (at 1 kHz, 60 dB, 40 kHz)
Stereo Separation	40 dB (at 1 kHz, 60 dB, 40 kHz)
	35 dB (at 250 Hz ~ 6.3 kHz, 60 dB, 40 kHz) (DIN)
	33 dB (at 6.3 kHz ~ 10 kHz, 60 dB, 40 kHz) (DIN)
Selectivity	70 dB (at 1 kHz, 60 dB, 40 kHz)

AM TUNER SECTION

Frequency Range	MW; 525 kHz ~ 1605 kHz (571m ~ 187m)
	LW; 150 kHz ~ 350 kHz (2000m ~ 875m)
Intermediate Frequency (IF)	455 kHz
Sensitivity	MW; 110μV/m (1 MHz)
	LW; 250μV/m (240 kHz)
Image Ratio	MW; 50 dB (1 MHz)
	LW; 35 dB (240 kHz)

TAPE DECK SECTION

Deck System	Full Auto Shut Off Cassette System
Track System	4-Track, 2-Channel
Recording System	AC Bias (50 kHz) with Dolby NR System
Erasing System	AC Erase (50 kHz)
Tape Speed	4.75 cm/sec. (1-7/8 i.p.s.)
Frequency Response	20 Hz ~ 15 kHz (Normal)
	20 Hz ~ 16 kHz (CrO_2)
	20 Hz ~ 17 kHz (Metal)
Signal/Noise Ratio:	
DOLBY NR-OUT	53 dB (Normal) }
	55 dB (CrO_2) } (DIN)
	55 dB (Metal) }
DOLBY NR-IN	61 dB (Normal) } (10 dB or more
	63 dB (CrO_2) } improved at
	63 dB (Metal) } 5 kHz) (DIN)
Erase Ratio	70 dB (DIN)
Channel Separation	40 dB (DIN)
Cross Talk	60 dB (DIN)
Wow & Flutter	0.05% (WRMS), ±0.15% (DIN-WTD)
POWER CONSUMPTION	160 W
POWER SUPPLY	AC 220 V, 50/60 Hz
DIMENSIONS (W x H x D)	430 x 124 x 318 mm
WEIGHT	7.2 kg

* Specifications are subject to change without notice for further improvement.

National Panasonic

Matsushita Electric Trading Co., Ltd.
P. O. Box 288, Central Osaka, Japan

SG-40 **DEUTSCH** **FRANÇAIS**

TECHNISCHE DATEN

VERSTARKER

Ausgangsleistung:	
Musik	2 x 35W an 4Ω (1% Klirr)
Sinus	2 x 27W an 4Ω (1% Klirr)
	2 x 25W an 4Ω (0,8% Klirr) (bei Aussteuerung eines Kanals)
Sinus	2 x 22W an 4Ω (1% Klirr)
	2 x 20W an 4Ω (0,8% Klirr) (bei Aussteuerung beider Kanale)
Frequenzgang	30 Hz bis 40 kHz, ±1,5 dB (DIN)
Leistungsbandbreite	25 Hz bis 25 kHz, –3 dB (DIN) an 4Ω 0,9% Klirr)
Eingangsempfindlichkeit und Impedanz:	
Mikrofon	1mV, 3kΩ
Aux	150mV, 47kΩ
Phono	2,5 mV, 47 kΩ
Aufnahmeausgang und Impedanz	150mV, 2,2kΩ
Klangregler:	
Bässe	±10dB bei 50Hz
Höhen	±10dB bei 15kHz
Gehörrichtige Frequenzgangkorrektur	+10dB bei 50Hz (Lautstarkepegel –30dB)

UKW-EMPFANGS

Abstimmsystem	Kapazitätsdiode (6 Festsendertasten plus eine Taste für manuelle Abstimmung)
Empfangsbereich	87,5MHz ~ 108MHz
Zwischenfrequenz (ZF)	10,7MHz
Eingsngsempfindlichkeit	2,0μV (Fremdspannungsbstand 26dB, Hub 40kHz) (DIN) bei 75Ω
	2.0μV (IHF) bei 75Ω
Spiegelfrequenzdämpfung	50dB (98MHz)
Fremdspannungsabstand	63dB (bei 1kHz, 60dB, 40kHz)
Klirrfaktor :	
Mono	0,16% (bei 1kHz, 60dB, 40kHz)
Stereo	0,22% (bei 1kHz, 60dB, 40kHz)
Übersprechdämpfung	40dB (bei 1kHz, 60dB, 40kHz)
	35dB (250Hz ~6,3kHz, 60dB, 40kHz) (DIN)
	33dB (6,3kHz ~10kHz, 60dB, 40kHz) (DIN)
Trennschärfe	70dB (bei 1kHz, 60dB, 40kHz)

AM-EMPFANGS

Empfangsbereiche	MW; 525kHz ~ 1605kHz (571m ~ 187m)
	LW; 150kHz ~ 350kHz (2000m ~ 857m)
Zwischenfrequenz (AF)	455kHz
Empfindlichkeit	MW; 110μV/m (1MHz)
	LW; 250μV/m (240 kHz)
Spiegelfrequenzdämpfung	MW; 50dB (1MHz)
	LW; 35dB (240kHz)

CASSETTEN-TONBANDGERT

Prinzip	Bandenden-Abschaltautomatik bei allen Bandlauffunktionen
Spursystem	Viertelspur, Stereo
Aufnahmesystem	HF-Vormagnetisierung (50kHz) mit Dolby-Rauschunterdrückung
Löschsystem	HF-Löschung (50kHz)
Bandgeschwindigkeit	4,75cm/s
Frequenzgang:	
Normalband	20 ~15.000Hz
CrO_2-Band	20 ~16.000Hz
Metalband	20 ~17.000Hz
Fremdspannungsabstand:	
Ohne Dolby	53dB (Normal) } (DIN)
	55dB (CrO_2) } (DIN)
	55dB (Metal) } (DIN)
Mit-Dolby	61dB (Normal) } (über 5kHz eine Verbesserung von mehr als 10dB) (DIN)
	63dB (CrO_2) } (über 5kHz eine Verbesserung von mehr als 10dB) (DIN)
	63dB (Metal) } (über 5kHz eine Verbesserung von mehr als 10dB) (DIN)
Löschdämpfung	70dB (DIN)
Übersprechdämpfung	40dB (DIN)
Stereo-Kanaltrennung	60dB (DIN)
Gleichlaufschwankungen	0,05% (Mittelwert, bewertet) ±0,15% (DIN-WTD)
LEISTUNGSAUFNAHME	160W
NETZSPANNUNG UND -FREQUENZ	220V, 50/60Hz
ABMESSUNGEN (B x H x T)	430mm x 124mm x 318mm
GEWICHT	7,2kg

Änderungen der technishen Daten und des Designs im Sinne ständiger Verbesserung vorbehalten.

CARACTERSTIQUES

SECTION AMPLIFICATEUR

Puissance de sortie	35W x 2 (DHT 1%, 4Ω) PSM
	27W x 2 (DHT 1%, 4Ω) EFF.
	25W x 2 (DHT 0,8%, 4Ω) EFF. Un canal en fonction.
	22W x 2 (DHT 1%, 4Ω) EFF.
	20W x 2 (DHT 0,8%, 4Ω) EFF Deux canaux en fonction
Réponse de fréquence	30 Hz ~ 40 kHz, ±1,5 dB (DIN)
Largeur de bande passante	25 Hz ~ 25 kHz , –3 dB (DIN) (DHT 0,9%, 4Ω)
Impédance et sensibilité d'entrée:	
Micro	1 mV, 3 kΩ
Aux	150 mV, 47 kΩ
Phono	2,5 mV, 47 kΩ
Impédance et sortie enr.	150 mV, 2,2 kΩ
Réglages de tonalité:	
Grave	±10 dB à 50 Hz
Aigu	±10 dB à 15 kHz
Réglage de contour sonore	+10 dB à 50 Hz (Volume à la position –30 dB)

SECTION TUNER FM

Système d'accord	Diode varactor (6 pré-sélecteurs et 1 accord manuel)
Echelle de fréquence	87,5 MHz ~ 108 MHz
Fréquence intermédiaire (FI)	10,7 MHz
Sensibilité	2,0μV (S/B 26 dB mod. 40 kHz) (DIN) à 75Ω
	2,0μV (IHF) à 75Ω
Rapport d'image	50 dB (98 MHz)
Rapport signal/bruit	63 dB (à 1 kHz, 60 dB, 40 kHz)
Distorsion:	
MONO	0,16% (à 1 kHz, 60 dB, 40 kHz)
STEREO	0,22% (à 1 kHz, 60 dB, 40 kHz)
Séparation stéréo	40 dB (à 1 kHz, 60 dB, 40 kHz)
	35 dB (à 250 Hz ~ 6,3 kHz, 60 dB, 40 kHz) DIN
	33 dB (à 6,3 kHz ~ 10 kHz, 60 dB, 40 kHz) DIN
Sélectivité	70 dB (à 1 kHz, 60 dB, 40 kHz)

SECTION TUNER AM

Echelle de fréquence	PO; 525 kHz ~ 1605 kHz (571 m ~ 187 m)
	GO; 150 kHz ~ 350 kHz (2000 m ~ 857 m)
Fréquence intermédiatire (FI)	455 kHz
Sensibilité	PO; 110μV/m (1 MHz)
	GP; 250μV/m (240 kHz)
Rapport image	PO; 50 dB (1 MHz)
	GP; 35 dB (240 kHz)

SECTION MAGNETROPHONE

Systéme de magnétophone	Commandes par "effleurement" et arrêt à automatisme intégral.
Système de piste	4 pistes, 2 canaux
Système d'enregistrement	Polarisation Cour. Alt. (50 kHz) avec système Dolby NR
Système d'effacement	Effacement Cour. Alt. (50 kHz)
Vitesse de bande	4,75 cm/s
Réponse de fréquence	20 Hz ~ 15 kHz (Normale)
	20 Hz ~ 16 kHz (CrO_2)
	20 Hz ~ 17 kHz (Métal)
Rapport signal/bruit :	
SORTIE DOLBY NR	53 dB (Normale) } (DIN)
	55 dB (CrO_2) } (DIN)
	55 dB (Métal) } (DIN)
ENTREE DOLBY NR	61 dB (Normale) } (10 dB ou plus amélioré à plus de 5 kHz (DIN)
	63 dB (CrO_2) } (10 dB ou plus amélioré à plus de 5 kHz (DIN)
	63 dB (Métal) } (10 dB ou plus amélioré à plus de 5 kHz (DIN)
Rapport d'effacement	70 dB (DIN)
Séparation de canal	40 dB (DIN)
Diaphonie	60 dB (DIN)
Pleurage et scintillement	0,05% (valeur eff pondérée), ±0,15% (DIN-WTD)
CONSOMMATION DE PUISSANCE	160 W
ALIMENTATION	COUR. ALT. 220V 50/60 Hz
DIMENSIONS (L x H x P)	430 mm x 124 mm x 318 mm
PIODS	7,2 kg

Les caracterstique el la présentation sont susceptibles d'être modifiées sans préavis par suite d'amélioration éventuelle de nos appareils.

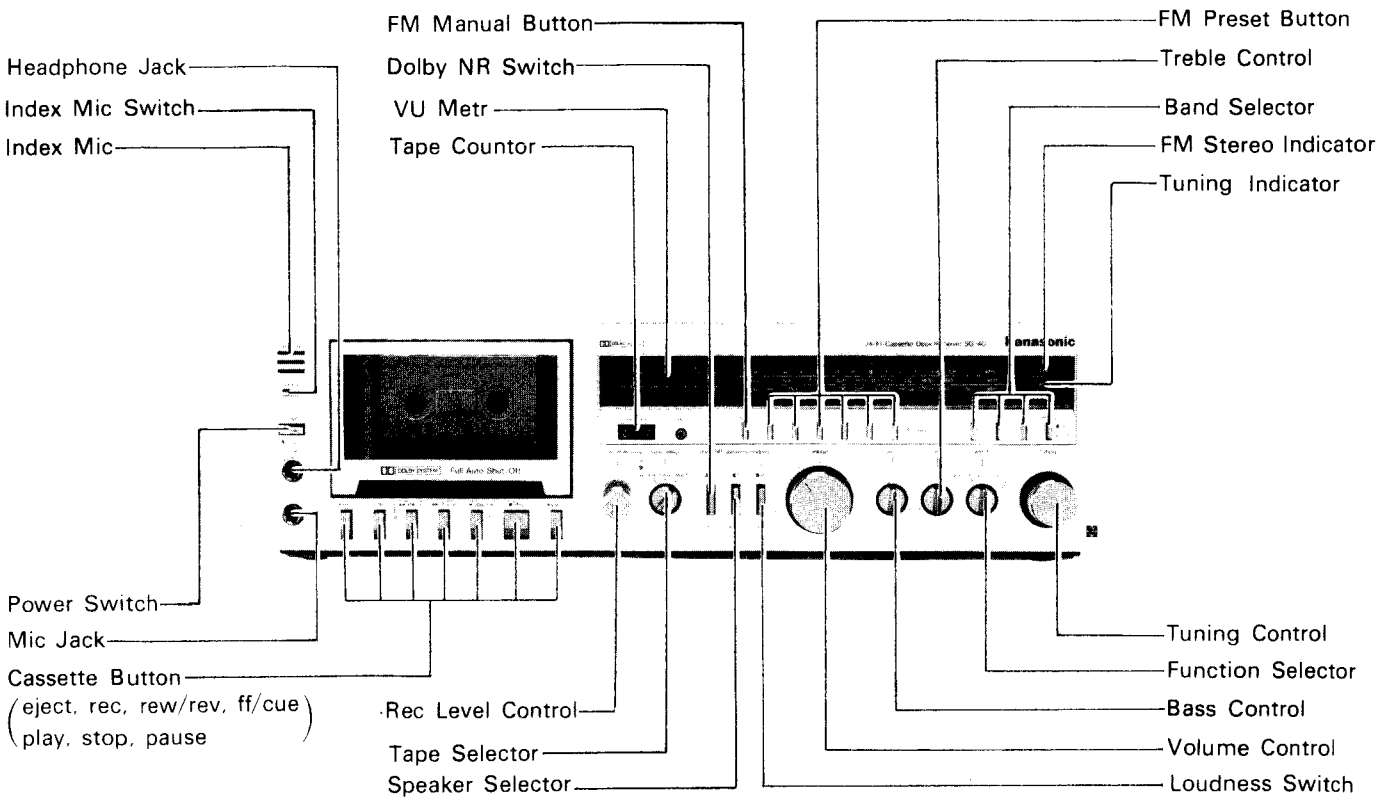
CONTENTS

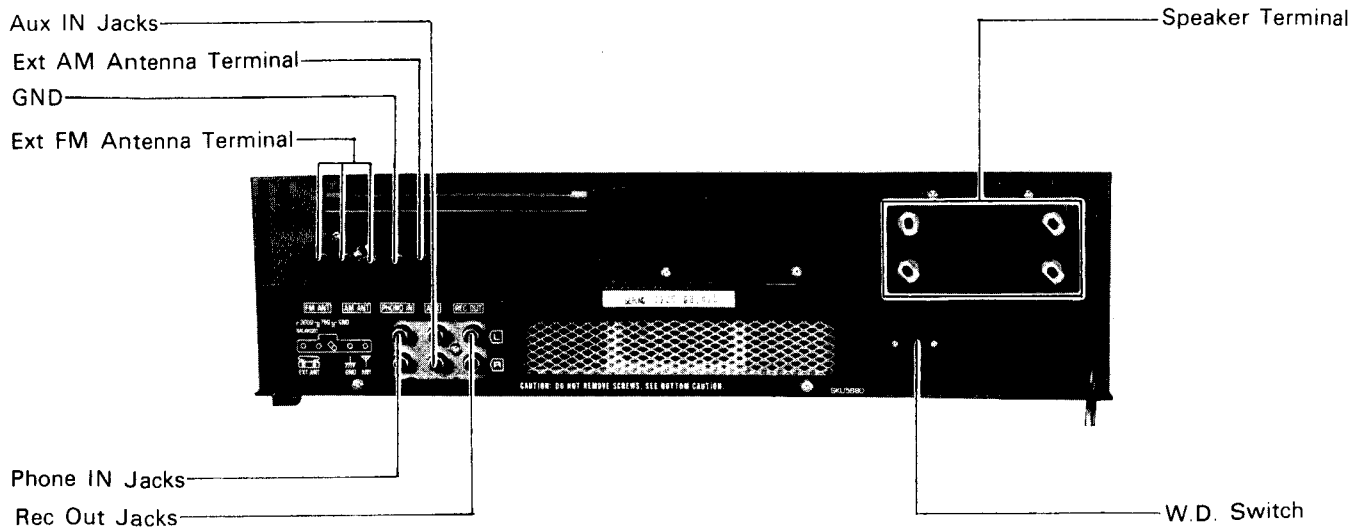
SPECIFICATION:
- English 1
- Deutsch 2
- Francais 2

LOCATION OF CONTROLS 3
DISASSEMBLY INSTRUCTIONS 4
ALIGNMENT INSTRUCTIONS:
- English . . . . . 5 ~ 8
- Deutsch . . . . . 9 ~ 12
- Francais 13, 14, 23, 24

DIAL CORD STRINGING GUIDE 6
SCHEMATIC DIAGRAM 15
CIRCUIT BOARD AND WIRING CONNECTION 19
REPLACEMENT PARTS LIST . . . . . 25 ~ 31
REPLACEMENT PARTS LIST OF CABINET AND CHASSIS 32
PARTS LOCATION OF CABINET AND CHASSIS 33
REPLACEMENT PARTS LIST OF CASSETTE TAPE DECK 34
EXPLODED VIEW OF CASSETTE TAPE DECK 35
BLOCK DIAGRAM 36

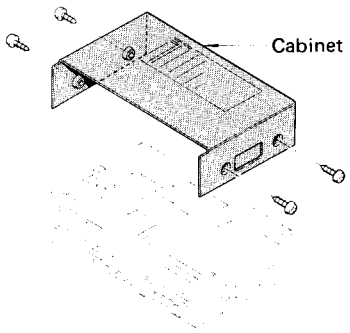
LOCATION OF CONTROLS



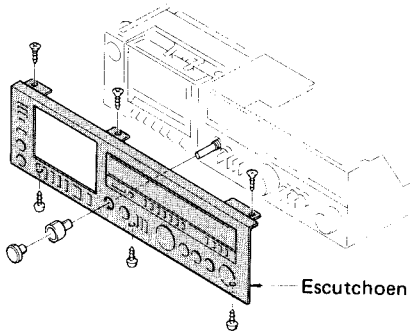


DISASSEMBLY INSTRUCTIONS

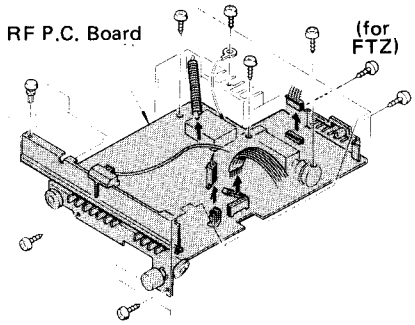
❶ Remove Cabinet



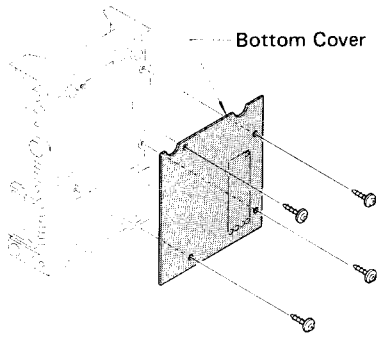
❷ Remove Escutcheon Ass'y



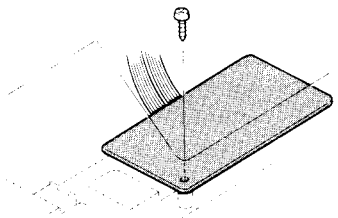
❸ Remove RF P.C. Board



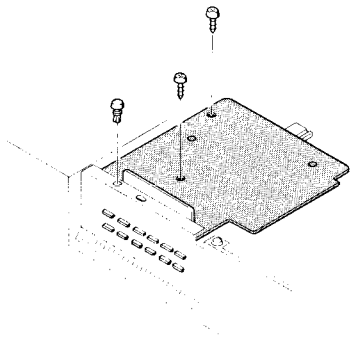
❹ Remove Bottom Cover



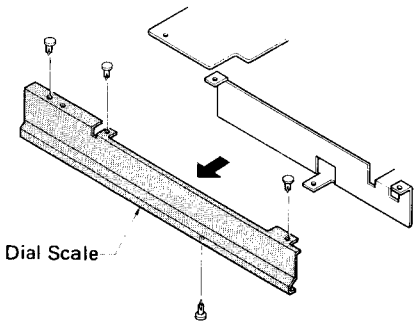
❺ Remove Preset VR P.C. Board



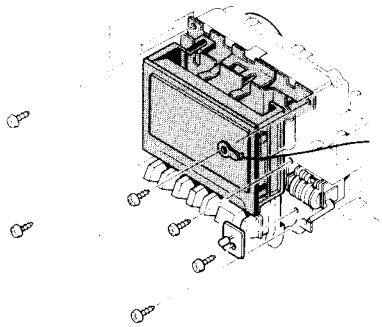
❻ Remove VU LED P.C. Board



❼ Remove Dial Scale



❽ Remove Cassette Deck



- **To Replace Parts on P.C. Board**
  - **RF P.C. Board** . . . . . Refer to ❶ ~ ❸.
  - **AF P.C. Board** . . . . . Refer to ❶ ~ ❹.
  - **Preset VR P.C. Board** . . . . . Refer to ❶, ❷, ❸, ❺.
  - **VU LED P.C. Board** . . . . . Refer to ❶, ❷, ❻.
- **To Remove Escutcheon** . . . . . Refer to ❶, ❷.
- **To Remove Cassette Deck** . . . . . Refer to ❶, ❷, ❼, ❽.

ALIGNMENT INSTRUCTIONS(CASSETTE TAPE DECK)

■ **Cassete Tape Deck Alignment**

BIAS ALIGNMENT

Control Positions:
1. Function . . . . . Tape
2. Tape Deck Condition. . . . . Recording Condition
3. Dolby Switch . . . . . OUT
4. Whistle Defeat Switch . . . . A

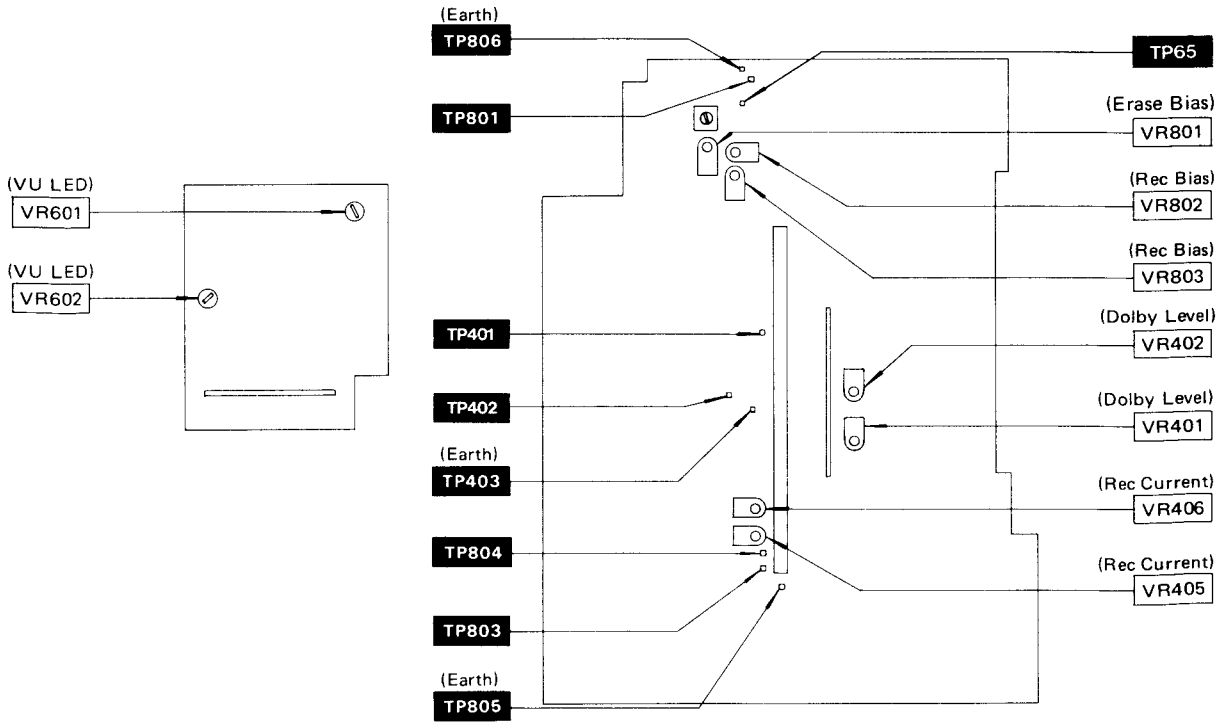
STEP	ALIGNMENT ITEM	VTVM CONNECTION		TAPE SELECTOR	ADJUST	REMARKS
		Positive	Negative			
1	Erase Bias	TP801	TP65	METAL	VR801 VR802 VR803	• Adjust VR802 and VR803 center. • Adjust VR801 to get 140 ~150 mV reading on VTVM.
2	Recording Bias	TP401 (L ch) TP402 (R ch)	TP403	NORMAL	VR802	• Adjust VR802 to get 3.6 mV reading on VTVM. (METAL: 8.5 ~9.5 mV)
3	Recording Bias	TP401 (L ch) TP402 (R ch)	TP403	NORMAL	VR803	• Adjust VR803 to get within 0.3 mV difference reading on both VTVM. • Repeat steps 1 & 2.

AZIMUTH, DOLBY, REC CURRENT ALIGNMENT

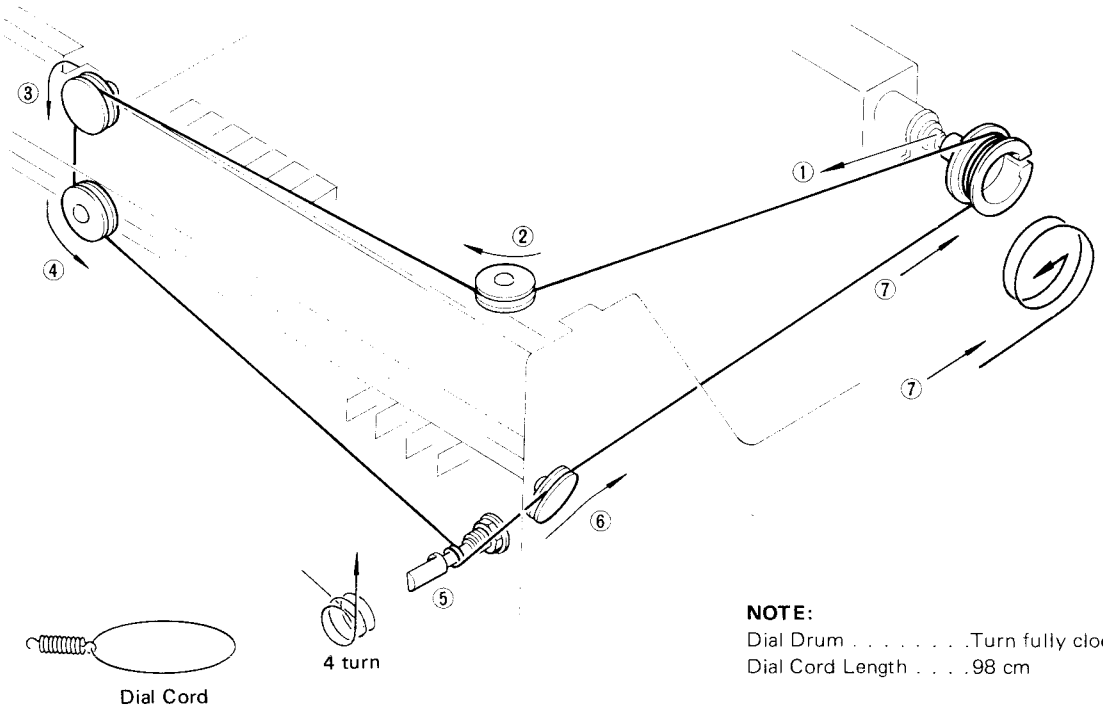
Control Positions:
1. Function . . . . . Tape, AUX (Step 3)
2. Tape Deck Condition. . . . . Play Condition, Recording Condition (Step 3)
3. Tape Selector . . . . . NORMAL

STEP	ALIGNMENT ITEM	VTVM CONNECTION		TEST TAPE	DOLBY SWITCH	ADJUST	REMARKS
		Positive	Negative				
1	R/P Head Azimuth	Speaker Terminal	Speaker Terminal	10 kHz, -5 dB	OUT	Head Screw	• Adjust screw for max. indication on VTVM.
2	Dolby Level	TP803 TP804	TP805	400 Hz 200nWb/m	IN	VR401 VR402	• Adjust VR401 and VR402 for 580 ± 20 mV reading on VTVM.
3	Rec Current	TP401 (L ch) TP402 (R ch)	TP403	.....	IN	VR405 VR406	• Connect a jumper between TP801 and TP806. • Apply 1 kHz, 150 mV to AUX IN and adjust Rec level volume at Dolby level. • Adjust VR405 and VR406 for 0.53 ± 0.02 mV reading on VTVM.

ALIGNMENT POINTS(CASSETTE TAPE DECK)

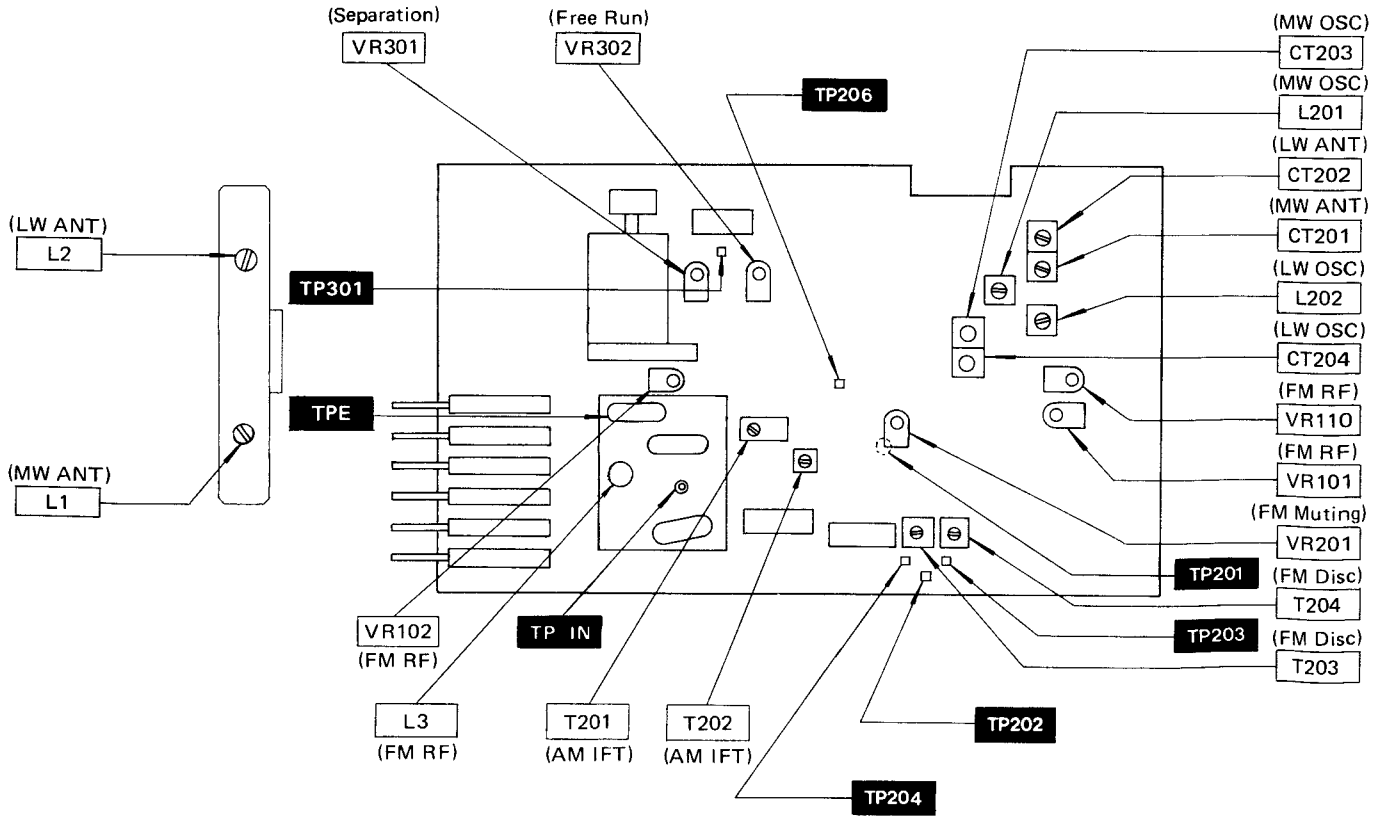


DIAL CORD STRINGING GUIDE



NOTE:
Dial Drum . . . . . .Turn fully clockwise
Dial Cord Length . . . .98 cm

ALIGNMENT POINTS(RADIO)



ALIGNMENT INSTRUCTIONS(RADIO-1)

Control Positions:

1. Volume Control . . . . . Center (AM-IF, RF, FM-RF), Minimum (FM-IF)
2. Function Selector . . . . . LW, MW, FM
3. FM Preset . . . . . MANUAL, P1, P2, P3, P4, P5 and P6
4. Loudness . . . . . OFF
5. FM Preset Volume (VR104 ~ VR109) . . . . . Turn them fully counterclockwise.
6. Preset Volume (VR101, 102, 110) . . . . . Turn set to the center position.
7. FM Mode Switch . . . . . FM MONO and FM AUTO
8. Speaker Switch . . . . . A
9. Output of signal generator should be no higher than necessary to obtain output reading.
10. Make certain that speaker system is connected to the receiver when aligning. (or use 4Ω dummy load resistors.)

STEP	SIGNAL GENERATOR OR SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUST	REMARKS
	CONNECTION	FREQUENCY				
AM-IF AND RF ALIGNMENT						
1	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz	Point of non-interference	Output meter across speaker jack (L). (Imp. 4Ω)	T201 (AM CFT) T202 (AM DET)	•Adjust for maximum output.
2 (LW)		150 kHz 30% Mod. with 400 Hz	150 kHz (7.9 mm)		L2 (LW ANT Coil) L202 (LW OSC Coil)	•Adjust for maximum output. •Refer to **NOTE**.
3 (LW)		350 kHz. 30% Mod. with 400 Hz	350 kHz (84.6 mm)		CT202 (LW ANT Trimmer) CT204 (LW OSC Trimmer)	•Adjust for maximum output. •Repeat steps (2) and (3).
4 (MW)		550 kHz 30% Mod. with 400 Hz	550 kHz (9.2 mm)		L1 (MW ANT Coil) L201 (MW OSC Coil)	•Adjust for maximum output. •Refer to **NOTE**.
5 (MW)		1500 kHz 30% Mod. with 400 Hz	1500 kHz (81.6 mm)		CT201 (MW ANT Trimmer) CT203 (MW OSC Trimmer)	•Adjust for maximum output. •Repeat steps (4) and (5).
Note: Cement antenna coil (L1 and L2) with wax after completing alignment.						
FM-IF ALIGNMENT						
1	High side through 0.01μF between point TP IN and TP E (Earth)	10.7 MHz (400 kHz SWP.)	Point of non-interference	Connect vert. amp input of scope between point TP201 and TP206 (Earth)	L3	•Adjust L3 for maximum amplitude and symmetrical curve.
2	No connection	No signal	Free	Connect DC VTV VTVM between TP202 and TP204	T203 (FM Disc)	•Adjust T203 for 0 mV on VTVM reading.
Note: As three output reading will be present, adjustments must be made at center frequency.						

■ **FM-RF Alignment**

STEP	SIGNAL GENERATOR		RADIO DIAL SETTING	INDICATOR (VTVM or SCOPE)	FM PRESET BUTTON	ADJUST	REMARKS
	CONNECTION	FREQUENCY					
1	Connect to EXT. FM Antenna terminal through dummy antenna	108.3 MHz 30% Mod. with 400 Hz	108.3 MHz	Output meter across speaker jack (L)	MANUAL	VR110	Adjust for maximum output. Repeat steps (1) ~ (3).
2		87.35 MHz 30% Mod. with 400 Hz	87.35 MHz			VR102	
3					P1	VR101	
Note: To correct the drift of FM band coverage (87.5 ~ 108 MHz), adjust VR101, 102 and 110							
FM MONO DISTORTION ALIGNMENT							
1	Connect to EXT. FM antenna terminal through dummy antenna.	98 MHz 100% Mod. with 400 Hz	98 MHz	Distortion meter to speaker jack (L).	MANUAL	T204 (FM Disc)	Adjust for minimum distortion meter indication.

ALIGNMENT INSTRUCTIONS(RADIO-2)

■ **FM Stereo Alignment**

FREE RUN ALIGNMENT		
EQUIPMENT CONNECTION	ADJUST	REMARKS
Connect frequency counter to TP301 and TP206 (Earth) at 98 MHz, non modulation with 60 dB input.	VR302	Adjust VR302 for 19 kHz ±50 Hz on frequency counter reading.

SEPARATION ALIGNMENT		
NOTES:	1. Stereo Modulator:	Connect Stereo Modulator to EXT, Mod. terminal of signal generator.
	2. Signal Generator:	Modulation Rate of 19 kHz Pilot Signal 9%
		Modulation Rate of Right and Left Signal . . . . . 30% (1 kHz)
		Output Level . . . . . 60 dB
	3. Tuner (Balance Control):	Adjust balance control so that output level from both channels becomes equal.

EQUIPMENT CONNECTION			ADJUST	REMARKS
SIGNAL GENERATOR	VRVM	OSCILLOSCOPE		
Connect to EXT. FM antenna terminal through dummy antenna.	Connect across speaker jack. (Imp. 4Ω)	Connect vertical amp. input of scope to terminals of VTVM.	VR301 (Separation Control)	Adjust VR301 for minimum indication of VTVM from the left side output when the right side of stereo modulation is modulated. Adjust VR301 in the same way for the right side. Adjust for best balance between "L to R" and "R to L" separation.
NOTE: When aligning separation, disconnect frequency counter.				

■ **FM Muting, Tuning Indicator Alignment**

STEP	SIGNAL GENERATOR		ADJUST	REMARKS
	CONNECTION	FREQUENCY		
FM MUTING ALIGNMENT				
1	Connect to EXT. FM antenna terminal through dummy antenna (300Ω) Common to chassis.	98 MHz 30% Mod. with 400 Hz, Stereo Mode with 9% pilot signal	VR201	•Turn the signal at 25 dBiinput on Mono position. •Set on Stereo position and adjust VR201 to turn on the muting at 25 dB input.

■ **VU Meter Alignment**

STEP	VTVM CONNECTION		TAPE DECK CONDITION	DOLBY NR SWITCH	ADJUST	REMARKS
	Positive	Negative				
1	TP803	TP805	REC	IN	REC Volume	• Apply 150 mV, 1 kHz to AUX. • Adjust Rec Volume to get 580 mV reading on VTVM.
	TP804					
2	No connection			IN	VR601 VR602	• Adjust VR601 and VR602 to light at +3 dB (□□mark). • Confirm that the +3 dB LED is dislighted by attenuating the input signal by 1 dB.

ANWEISUNGEN ZUM ABGLEICH(RADIO-1)

■ AM-Abgleich

Reglerstellungen:

1. Lautstärkeregler . . . . . Zentrum (AM-ZF, HF, FM-HF), Minimum (FM-ZF)
2. Empfangsbereichschalter . . . . . LW, MW, FM
3. FM-Vorprogrammierung . . . . . MANUAL, P1, P2, P3, P4, P5 und P6
4. Loudness . . . . . AUS
5. Lautstärke der FM-Vorprogrammierung (VR104 ~ VR109) . . . . . Ganz im Uhrzeigersinn drehen.
6. Lautstärke der Vorprogrammierung (VR101, 102, und 110) . . . . . Bis zur Mitte drehen.
7. Schalter für UKW-Betriebsweise . . . . . FM MONO und FM AUTO
8. Lautsprecherschalter . . . . . A
9. Der Ausgang des Messenders sollte nicht höher als nötig sein, um den Ausgangswert zu erhalten.
10. Sich vergewissern, daß die Lautsprecheranlage während des Abgleichs an den Tuner angeschlossen ist. (oder künstliche Antennenwiderstände von 4Ω verwenden).

SCHRITTE	SIGNALGENERATOR oder WOBBELGENERATOR		EINSTELLUNG DER ABSTIMM-SKALA	ANZEIGE (RMV oder SKOP)	EINSTELLEN	ANMERKUNGEN
	ANSCHLUSS	FREQUENZ				
AM-ZF-ABGLEICH UND HF-ABGLEICH						
1	Aus mehreren Drahtwindungen eine Schleife bilden und das Signal in die Schleife des Receivers abstrahlen.	455 kHz 30% Mod. mit 400 Hz	Punkt der Nicht-interferenz	Ausgangsmeßinstrument über Ausgangsbuchse (L). (Imp. 4Ω)	T201 (AM CFT) T202 (AM DET)	• Auf maximalen Ausgang einstellen.
2 (LW)		150 kHz 30% Mod mit 400 Hz	150 kHz (7.9 mm)		L2 (LW-Antennenspule) L202 (LW-Schwingspule)	• Auf maximalen Ausgang einstellen. • Siehe **Hinweis**.
3 (LW)		350 kHz 30% Mod. mit 400 Hz	350 kHz (84.6 mm)		CT202 (LW-Antennentrimmer) CT204 (LW-Schwingtrimmer)	• Auf maximalen Ausgang einstellen. • Schritte (2) und (3) wiederholen.
4 (MW)		550 kHz 30% Mod. mit 400 Hz	550 kHz (9.2 mm)		L1 (MW-Antennenspule) L201 (MW-Schwingspule)	• Auf maximalen Ausgang einstellen. • Siehe **Hinweis**.
5 (MW)		1500 kHz 30% Mod. mit 400 Hz	1500 kHz (81.6 mm)		CT201 (MW-Antennentrimmer) CT203 (MW-Schwingtrimmer)	• Auf maximalen Ausgang einstellen. • Schritte (4) und (5) wiederholen.
Hinweis: Die Antennenspule (L1 und L2) nach dem Abgleich mit Wachs beschichten.						
FM-ZF-ABGLEICH						
1	Hohe Seite durch 0,01μF zwischen Punkt TP IN und TP E (Erde).	10.7 MHz (400 kHz SWP.)	Punkt der Nicht-Interferenz	Vertikalen Verstärkereingang des Skop zwischen Punkt TP201 und TP206 (Erde) anschließen.	L3	• L3 auf maximale Amplitude und symmetrische Kurve einstellen.
2	Kein Auschluß	Kein Signal	Frei	DC RVM zwischen TP202 und TP204 anschliessen.	T203 (FM Disc)	• T203 auf 0 mV auf der RVM-Anzeige einstellen.
Hinweis: Da drei Ausgangsanzeigen vorliegen, müssen die Einstellungen bei Mittenfrequenz durchgefuhrt werden.						

ANWEISUNGEN ZUM ABGLEICH(RADIO-2)

■ UKW-ZF-Abgleich

SCHRITT	SIGNALGENERATOR		EINSTELLUNG DER ABSTIMM-SKALA	ANZEIGE (RVM oder SKOP)	UKW-VORPROGRAM-MIERUNGS-TASTE	EINSTELLEN	ANMERKUNGEN
	ANSCHLUSS	FREQUENZ					
1	Über Hilfsantenne mit EXT, FM-Antennenklemme verbinden.	108,3 MHz 30% Mod. mit 400 Hz	108,3 MHz	Ausgangsmeßinstrument über Lautsprecherbuchse (L).	MANUAL	VR110	• Auf maximalen Ausgang einstellen. • Schritte (1) bis (3) wiederholen.
2		87,35 MHz 30% Mod. mit 400 Hz	87,35 MHz (0 mm)			VR102	
3					P1	VR101	
Hinwels: Zur Korrektur von Frequenzwanderung im UKW-Bandbereich (87,5 ~108 MHz) VR101, 102 und 110 einstellen.							
UKW-MONO-VERZERRUNGSABGLEICH							
1	Über Hilfsantenne mit EXT-FM-Antennenklemme verbinden.	98 MHz 100% Mod. mit 400 Hz	98 MHz	Verzerrungsmesser zur Lautsprecherbuchse (L)	MANUAL	T204 (UKW-Scheibe)	• Auf minimale Anzeige des Verzerrungsmessers einstellen.

■ UKW-STEREO-ABGLEICH

FREI-LAUFENDER-ABGLEICH		
GERÄTE-ANSCHLUSS	EINSTELLEN	ANMERKUNGEN
Frequenz-Zähler an TP301 und TP206 (Erde) bei 98 MHz, keine Modulation mit 60 dB Eingang anschliessen.	VR302	VR302 auf 19 kHz ±50 Hz am Frequenz-Zähler einstellen.

TRENNUNGSABGLEICH

Hinweise:
1. Stereo-Modulator: Stereo-Modulator an EXT. Mod. Anschluß des Meßoszillator anschließen.
2. Signalgenerator: Modulation des 19 kHz-Pilottons 9%
   Modulation des rechten und linken Tons 30%
   Ausgangspegel . . . . . 60 dB
3. Tuner (Balance): Balanceregler so einstellen, daß der Ausgangspegel beider Kanäle identisch ist.

GERÄTEANSCHLUSS			EINSTELLEN	ANMERKUNGEN
SIGNALGENERATOR	RVM	EINSTELLEN		
Über Hilfsantenne an EXT, FM-Antennenklemme anschließen.	Über Lautsprecherbuchse anschließen (Imp. 4Ω)	Vertikalen Verstärkereingang des SKOP mit den Anschlüßklemmen des RVM verbinden.	VR301 (Trennungsregler)	VR301 auf minimale Anzeige des RVM vom linken Ausgang einstellen, wenn die rechte Seite des Stereo-Modulators moduliert wird. VR301 in gleicher Weise für die rechte Seite einstellen. Optimale Balance zwischen "L nach R" und "R nach L" einstellen.
Hinwels: Beim Trennungsabgleich den Frequenzzähler ausschalten.				

■ UKW-Stummabstimmungs-und Abstimmanzeigen-Abgleichung

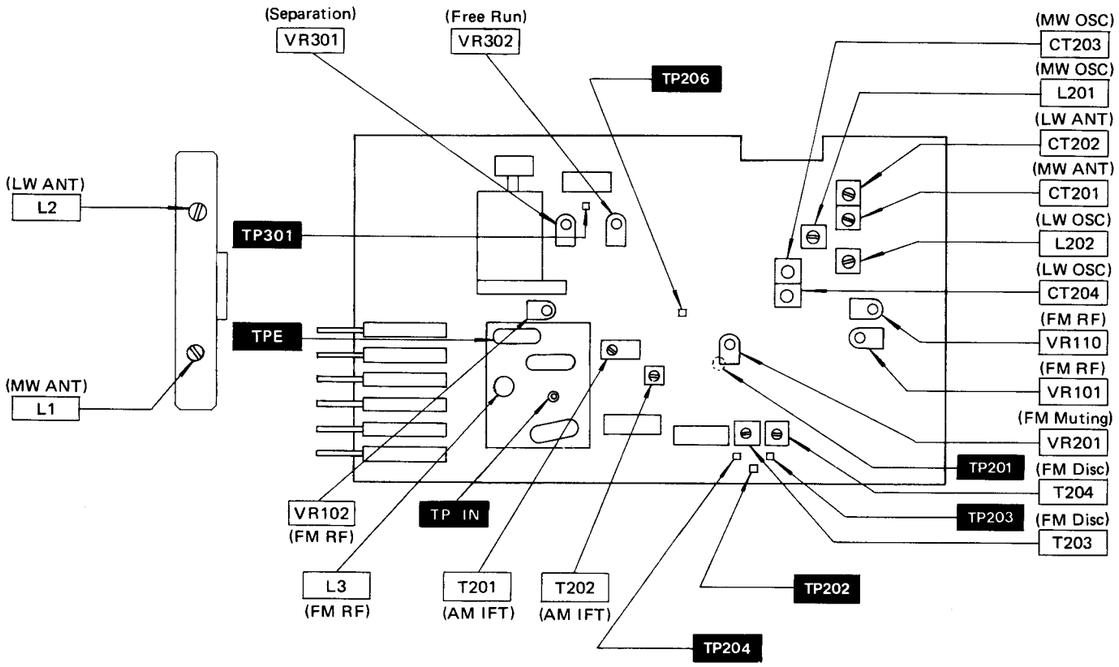
SCHRITT	SIGNAL GENERATOR		EINSTELLEN	ANMERKUNGEN
	ANSCHLUSS	FREQUENZ		
UKW-STUMMABSTIMMUNGS-ABGLEICHUNG				
1	Über Hilfsantenne (300Ω) mit EXT FM-Antennenklemme verbinden.	98 MHz 30% Mod. mit 400 Hz, Stereo mit 9% Pilotsignal	VR201	• Signal bei 25 dB Eingang in der Monostellung abstimmen. • Auf Stereo umstellen und VR201 so einstellen, daß bei 25 dB Eingang die Stummabstimmung freigesetzt wird.

ANWEISUNGEN ZUM ABGLEICH(RADIO-3)

■ **VU-METERABGLEICH**

SCHRITTE	RVM-ANSCHLUSS		TONBAND-GERÄT-EINSTELLUNG	DOLBY SCHALTER	EINSTELLEN	ANMERKUNGEN
	Positiv	Negativ				
1	TP803 TP804	TP805	REC	IN	Aufnahme-Lautstärke	• 150 mV, 1 kHz an AUX anlegen. • Aufnahme-Lautstärke so einstellen, daß Ablesewert auf RVM 580 mV ist.
2	Kein Anschluß			IN	VR601 VR602	• VR601 und VR602 so einstellen, daß LED be +3 dB (□□ Markierung) aufleuchtet. • Sicherstellen, daß die LED, die +3 dB anzeigt, ausgeht, wenn das Signal um 1 dB gedämpft wird.

ABGLEICHPUNKTE(RADIO)



ANWEISUNGEN ZUM ABGLEICH(CASSETTEN-TONBAND)

■ **Abgleich des Kassettendecks**

VORMAGNETISIERUNGSABGLEICH

Reglerstellungen:
1. Funktion . . . . . Tonband
2. Tonbandgerät auf RECORDING (Aufnahme) einstellen.
3. DOLBY-Schalter auf OUT (Aus) stellen.
4. Pfeifton-Abstellschalter . . . . . A

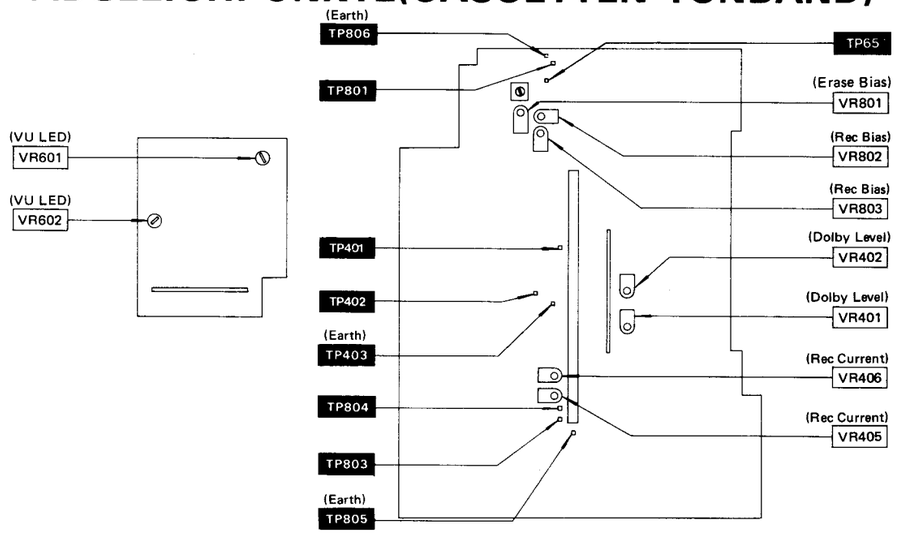
SCHRITT	ABGLEICH-OBJEKT	RVM-ANSCHLUSS		BANDWAHL	EINSTELLEN	ANMERKUNGEN
		Positiv	Negativ			
1	Lösch-Strom	TP801	TP65	METAL	VR801 VR802 VR803	• VR802 und VR803 auf Zentrum einstellen. • VR801 auf 140 ~ 150 mV Anzeige auf RVM einstellen.
2	Aufnahme-Vormag-netisierung	TP401 (L ch) TP402 (R ch)	TP403	NORMAL	VR802	• VR802 auf 3,6 mV Anzeige auf RVM einstellen. (METAL: 8,5 ~ 9,5 mV) • Schritte (1) und (2) wiederholen.
3	Aufnahme-Vormag-netisierung	TP401 (L ch) TP402 (R ch)	TP403	NORMAL	VR803	• VR803 so einstellen, daß der Anzeigen-unterschied der beiden RVM innerhalb 0,3 mV liegt.

ABGLEICH DES AZIMUT, DOLBY, UND AUFNAHMESTROMS

Reglerstellungen:
1. Funktion . . . . . Tonband, AUX (Schritte 3)
2. Tonbandgerät auf PLAY einstellen. REC (Schritte 3)
3. Bandwahl: . . . . . NORMAL

SCHRITTE	ABGLEICH-OBJEKT	RVM-ANSCHLUSS		TESTBAND	DOLBY-SCHALTER	EIN-STELLEN	ANMERKUNGEN
		Positiv	Negativ				
1	Aufnahme-/ Wiedergabe-Azimulkopf	Lautsprecher Anschluß	Lautsprecher Anschluß	10 kHz, –5 dB	OUT	Kopt-schraube	• Schraube auf maximale Anzeige am RVM einstellen..
2	Dolby Pegel	TP803 TP804	TP805	400 Hz, 200 nWb/m	IN	VR401 VR402	• VR401 und VR402 auf 580 ±20 mV Anzeige am einstellen.
3	Aufnahme-Strom	TP401 TP402	TP403	.....	IN	VR405 VR406	• Zwischen den Anschlußklemmen TP801 und TP806. • 1 kHz, 150 mV an AUX IN anlegen und Aufnahme-Lautstärkepegd auf den Dolby Pegel einstellen. • VR405 und VR406 auf Ablesewert 0,53 ±0,02 mV am RVM einstellen.

ABGLEICHPUNKTE(CASSETTEN-TONBAND)



INSTRUCTIONS D'ALIGNEMENT-1

■ Alignment de AM

Remarques:

1. Commande de volume . . . . . Au centre (AM-IF, RF, FM-RF), au minimum (FM-IF)
2. Sélecteur de gamme . . . . . LW, MW
3. Présélection FM . . . . . MANUAL, P1, P2, P3, P4, P5 et P6
4. Envelope sonore . . . . . OFF
5. Volume de présélection FM (VR104 ~ 109) . . . . . Tourner tout à fait dans le sens contraire des aiguilles d'une montre.
6. Présélection de volume (VR101, 102 et VR110) . . . . . Amener sur la position médiane.
7. Contacteur de mode FM . . . . . FM MONO at FM AUTO
8. Contacteur de parler . . . . . A
9. La sortie du générateur de signaux ne doit pas être supérieure à celle nécessaire pour obtenir la lecture de sortie.
10. S'assurer que les enceintes sont raccordées au récepteur quand on effectue la alignement.

ETAPE	GENERATEUR DE SIGNAUX ou DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	VOLTMETRE OU OSCILLOSCOPE	REGLAGE	REMARQUES
	CONNEXION	FREQUENCE				
ALIGNEMENT DE F.I. ET H.F. EN AM						
1	Façonner une boucle de quelques tours de fil et rayonner le signal dans la boucle du récepteur.	455 kHz modulé à 30% sur 400 Hz	Point sans interférence	Voltmètre sur la prise du haut-parleur gauche (L) (Imp. 4Ω).	T201 (2ème TF1 sur AM) T202 (3ème TF1 sur AM)	• Régler pour une sortie maximale.
2 (LW)		150 kHz modulé à 30% sur 400 Hz	150 kHz (7,9 mm)		L2 (Bobine d'antenne GO) L202 (Bobine de l'oscillateur GO)	• Régler pour une sortie maximale. • Se référer à la remarque.
3 (LW)		350 kHz modulé à 30% sur 400 Hz	350 kHz (84,6 mm)		CT202 (Compensateur d'antenne GO) CT204 (Compensateur de l'oscillateur GO)	• Régler pour une sortie maximale. • Répéter les étapes (2) et (3).
4 (MW)		550 kHz modulé à 30% sur 400 Hz	550 kHz (9,2 mm)		L1 (Bobine d'antenne OM) L201 (Bobine de l'oscillateur OM)	• Régler pour une sortie maximale. • Se référer à remarque.
5 (MW)		1500 kHz modulé à 30% sur 400 Hz	1500 kHz (81,6 mm)		CT201 (Compensateur d'antenne QM) CT203 (Compensateur de l'oscillateur QM)	• Régler pour une sortie maximale. • Répéter les étapes (4) et (5).
Remarque: Coller la bobine (L1 et L2) d'antenne à la cire après avoir terminé l'alignement.						
ALIGNEMENT DE FM-FI						
1	Côté haut connecté par 0,01μF entre les points TP IN et TP E (masse).	10,7 MHz (400 kHz SWP.)	Point de non-interférence	Connecter l'entrée d'amp. vert. d'oscilloscope entre les points TP201 et TP206 (masse).	L3	• Ajuster L3 pour avoir une amplitude maximale et une courbe symmetrique.
2	Pas de connexion	Pas de signal	Libre	Connecter le voltmètre électron. à cour. cont. entre TP202 et TP204.	T203 (FM Disc)	• Regler T203 pour obtenir la lecture de 0 mV au voltmètre électron.
Remarque: Comme on aura trois lectures de sortie présentes, les réglages doivent être faits à la fréquence centrale.						

INSTRUCTIONS D'ALIGNEMENT-2

■ Alignement de FM·RF

ETAPE	GENERATEUR DE SIGNAUX		POSITION DE L'AIGUILLE SUR LE CADRAN	VOLTMETRE ou OSCILLOSCOPE	BOUTON DE PRESELECTION	REGLAGE	REMARQUES
	CONNEXION	FREQUENCE					
1	Connecter la borne d'antenne FM EXT. par l'intermédiaire de l'antenne fictive.	108,3 MHz modulé à 30% sur 400 Hz	108,3 MHz	Voltmètre sur la prise du haut-gauche (L).	MANUAL	VR110	• Régler pour obtenir la sortie maximale. • Répéter les opérations (1) ~ (3).
2		87,35 MHz modulé à 30% sur 400 Hz	87,35 MHz			VR102	
3					P1	VR101	
Remarque: Pour corriger la derive de la gamme de frequence FM (87,5 ~ 108 MHz) régler VR101, 102 et 110.							
ALIGNEMENT DE LA DISTORSION SUR FM MONO							
1	Connecter à la borne d'antenne EXT. FM via le circuit de couplage.	98 MHz modulé à 100% sur 400 Hz	98 MHz	Distorsiomètre à la prise du haut-parleur gauche (L).	MANUAL	T204 (FM Disc)	• Régler pour une lecture minimale du distorsiomètre.

■ Alignement de FM stéréo

ALIGNEMENT DE LA LIBRE COURSE			
CONNEXION DES INSTRUMENTS		REGLAGE	REMARQUES
Brancher un fréquencemètre à TP301 et TP206 (Masse) à 98 MHz modulé à non sur entrée de 60 dB.		VR302	Ajuster VR302 pour une ecture de 19 kHz ±50 Hz sur le fréquencemètre.
ALIGNEMENT DE LA DIAPHONIE			
Remarques: 1. Modulateur stéréo:	Connecter le modulateur stéréo avec la borne EXT, Mod du générateur de signaux.		
2. Générateur de signaux:	Taux de modulation du signal pilote de 19 kHz. . . . 9% Taux de modulation des signaux gauche et droit 30% Niveau de sortie. . . . . 60 dB		
3. Tuner (commande d'équilibrage)	Régler la commande d'équilibrage de sorte que la sortie des deux canaux soit égale.		

CONNEXION DES INSTRUMENTS			REGLAGE	REMARQUES
GENERATEUR DE SIGNAUX	VOLTMETRE	OSCILLOSCOPE		
Connecter à la borne d'antenne EXT. FM via le circuit de couplage.	Connecter à la prise de haut-parleur (Imp. 4Ω)	Connecter la sonde verticale à la sonde du voltmètre.	VR301 (Commande de séparation)	Régler VR301 pour une lecture minimale sur le canal lorsque le signal modulé est sur le canal droit. Régler VR301 de la même manière pour le canal droit. Régler pour un équilibrage parfait entre gauche et droit de pour une meilleure séparation. Il faut débrancher le fréquencemètre.
Remarque: Pour l'alignement de la séparation, il faut débrancher le fréquencemètre.				

■ Alignement de sourdine FM et de témoin d'accord

ETAPE	GENERATEUR DE SIGNAUX		REGLER A CE NIVEAU	REMARQUES
	BRANCHEMENTS	FREQUENCE		
		ALIGNEMENT DE SOURDINE FM		
1	Brancher sur la borne d'antenne EXT. FM au moyen d'une antenne fictive de 300Ω commune au châssis.	98 MHz, 30% de modulation sur 400 Hz, mode stéréo avec signal pilote de 9%	VR201	• Accorder le signal à une entrée de 25 dB en mono. • Amener sur la position stéréo et régler VR201 pour annuler la sordine à une entrée de 25 dB.

SCHEMATIC DIA

DAMPER D101 DS135TD

AOC D109 20A90

AM DET D201 0A90

IF AMP IC201 AN217P

SWITCHING D204,301 302,310 MA150

AOC D108,203 MA27A2

FM IF AMP DET IC202 μPC1167C2

SWITCHING Q201 2SC945LFV-P Q202 2SA564-R Q203 2SC828-RS

STABILIZER IC102 μPC78L08-I

FM MPX IC301 LA3250S

For WEST GERMANY

EXT AM ANT

INDEX MIC AMP Q407 2SA733AFV-Y

INDEX MIC

REC/PLAY HEAD Lch

REC/PLAY HEAD Rch

E. HEAD

MIC JACK

TAPE EQ

SXPTC2-1

BIAS AMP Q801 2SC1383NC-RS

SWITCHING Q401,402 2SC945LFV-PK

REC IND D801 LN2IRCPHL

REC AMP Q405,406 2SC945LFV-PK

MUTING Q802,803,805,806 2SC945LFV-PK

DOLBY AMP IC801,802 NE646BN

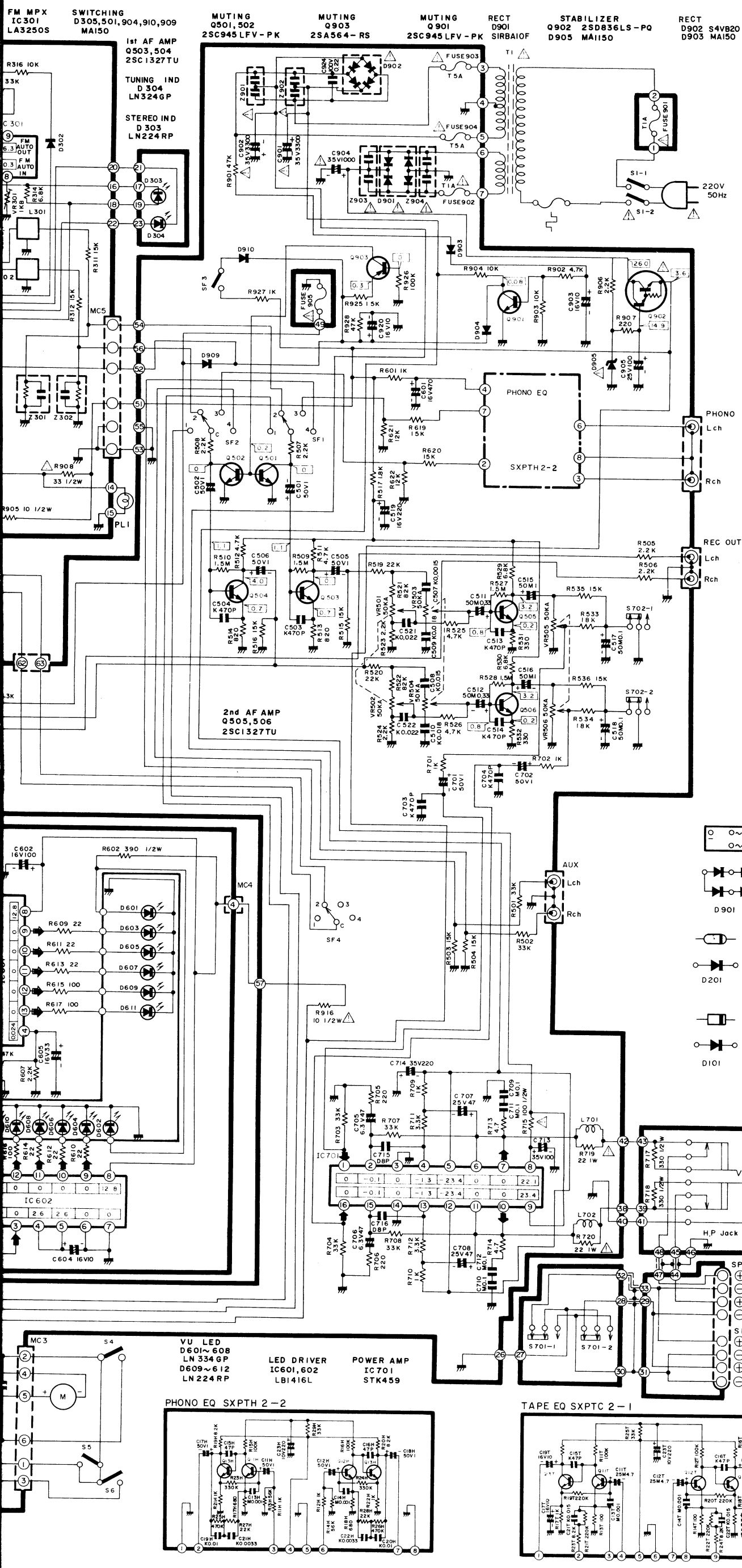
SWITCHING Q804 2SC828-RS

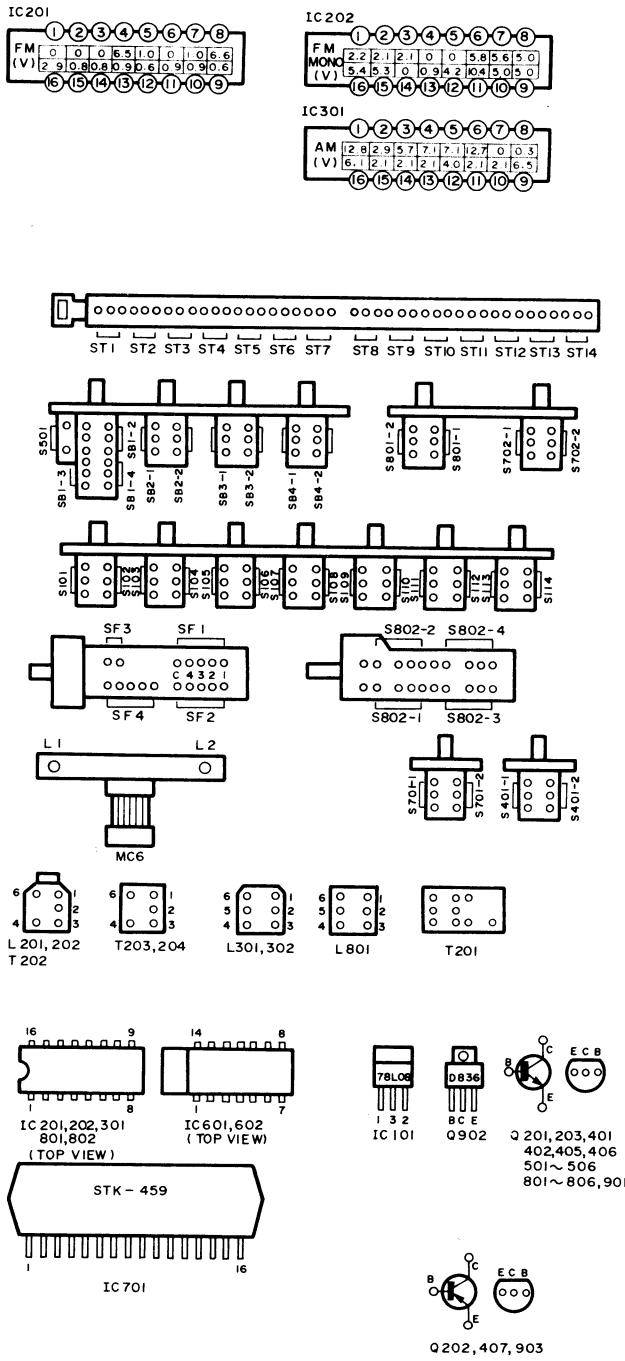
SWITCHING D803,911 MA150

15

* This diagram might be modified without notice for further development of technology.

C DIAGRAM





NOTE

S1 : POWER SWITCH IN "OFF" POSITION
S3 : WHISTLE DEFEAT SWITCH IN "A" POSITION
S4 : TAPE MOTOR SWITCH IN "OFF" POSITION
S5 : TAPE PLAYBACK SWITCH IN "OFF" POSITION
S6 : TAPE FF/REW SWITCH IN "OFF" POSITION
S101~S114 : PRE SET SELECTOR SWITCH IN "MANUAL" POSITION AND PRE SET MUTING SWITCH IN "OFF" POSITION
SB1~3 BAND SELECTOR SWITCH IN "MW" POSITION (SB1: LW, SB2: MW, SB3: FM)
SB4 : FM MODE SELECTOR SWITCH IN "FM AUTO" POSITION
SF1,2,4 : FUNCTION SELECTOR SWITCH IN "TUNER" POSITION (C: COMMON, 1: TAPE/MIC, 2: TUNER, 3: PHONO, 4: AUX)
SF3 FUNCTION MUTING SWITCH IN "OFF" POSITION
ST1~14 : REC/PLAY SELECTOR SWITCH IN "PLAY" POSITION
S802 : TAPE SELECTOR SWITCH IN "NORMAL" POSITION (C: COMMON 1: NORMAL 2: CrO3 3: METAL)
S401 : INDEX MIC SWITCH IN "OFF" POSITION
S501 : BAND MUTING SWITCH IN "OFF" POSITION
S701 : SPEAKER SELECTOR SWITCH IN "A" POSITION
S702 : LOUDNESS SWITCH IN "OFF" POSITION
S801 : DOLBY NR SWITCH IN "OUT" POSITION

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY ⚠ MARK HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY MANUFACTURER'S SPECIFIED PARTS.

SCHEMATIC DIAGRAM
MODEL NO. SG-40

CIRCUIT BOARD AND WIRI

AM ANT JACK FM ANT JACK

FOR FTZ

FERRITE ANT

P5

VR104~109
PRESET VR

VR109 VR108 VR107 VR106 VR105 VR104

FW28 FW18

S.P OUT

47 44 29 33 31

P8 P11 P12

INDEX MIC

P4

GND

F905

P2

D602
VU LED

P15

Q11H,12H

C	4 V
B	0.6 V
E	0 V

Q13H,14H

C	6.8 V
B	1.4 V
E	0 V

GND

IC301

	AM	FM ANT
1	2.8 V	2.8 V
2	2.9 V	2.9 V
3	5.7 V	5.7 V
4	7.1 V	6.9 V
5	7.1 V	6.9 V
6	12.7 V	12.5 V
7	0 V	0 V
8	0.3 V	0.3 V
9	6.5 V	6.3 V
10	2.1 V	2.1 V
11	2.1 V	2.1 V
12	4.0 V	2.5 V
13	2.1 V	2.1 V
14	2.1 V	2.1 V
15	2 V	2.1 V
16	6.1 V	2.9 V

FM Ant Jack A
FM Ant Jack B
AM Ant Jack Y
AM Ant Jack X

P4

AM/FM ANT JACK

P2 P2 D303 TUNING INDICATOR

P13

D801 REC INDICATOR

P1 P1 P6

D304 STEREO INDICATOR

P1

Q802

C	0 V
B	0.6 V
E	0 V

L R PHONO IN

IC801,802

1	5.6 V
2	5.7 V
3	6.0 V
4	5.6 V
5	5.6 V
6	5.7 V
7	4.9 V
8	—
9	0 V
10	5.6 V
11	5.6 V
12	5.6 V
13	—
14	6.0 V
15	6.0 V
16	11.1 V

P6 - A
P6 - B

Q203

C	0 V
B	0.7 V
E	0 V

DIAL LAMP

P6 - D

GND

P6 - C

Q201

C	0.1 V
B	0.56 V
E	0 V

Q803

C	0 V
B	0.6 V
E	0 V

Q202

C	0 V
B	0.1 V
E	3.0 V

TO P1 MC-5

Q903

C	0.2 V
B	0 V
E	0.3 V

STI~14
REC/PLAY
SELECTOR
SWITCH

P2 - M

Q501,502

C	0 V
B	0.2 V
E	0 V

Q504

C	4.0 V
B	1.1 V
E	0.7 V

S101~114
PRESET SELECTOR
SWITCH

TO P1 MC-7

Q503

C	0 V
B	1.1 V
E	0.7 V

SF3
FUNCTION
MUTING
SWITCH

SB1~3
BAND
SELECTOR
SWITCH

SB4
FM MODE
SELECTOR
SWITCH

S501 BAND MUTING SWITCH

SF1,2,4
FUNCTION SELECTOR
SWITCH

VR503,504
TREBLE
CONTROL

IC201

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AM	0 V	0 V	0 V	6.9 V	1.0 V	0 V	1.0 V	6.9 V	9.2 V	1.5 V	0.8 V	9.1 V	0.7 V	1.5 V	9.2 V	0.7 V
FM	0 V	0 V	0 V	6.5 V	1.0 V	0 V	1.0 V	6.6 V	0.6 V	0.9 V	0.9 V	0.6 V	0.9 V	0.8 V	0.8 V	2.9 V

IC202

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
FM MONO	2.2 V	2.1 V	2.1 V	0 V	0 V	5.8 V	5.6 V	5.0 V	5.0 V	5.0 V	10.4 V	4.2 V	0.9 V	0 V	5.3 V	5.4 V
FM AUTO	2.2 V	2.1 V	2.1 V	0 V	1.5 V	5.1 V	5.1 V	5.0 V	5.0 V	5.0 V	10.3 V	4.7 V	1.2 V	0 V	5.3 V	5.4 V

* This diagram might be modified without notice for further development of technology.

CIRCUIT BOARD AND WIRI

P5

VR104~109
PRESET VR

AM ANT JACK FM ANT JACK

FOR FTZ

FERRITE ANT

INDEX MIC

GND

F905

P12

S.P OUT

P15

D601~612
VU LED

P4

AM/FM ANT JACK

P13

D801
REC INDICATOR

D303
TUNING
INDICATOR

P6

D304
STEREO
INDICATOR

P1

PHONO IN

DIAL LAMP

GND

SB1~3
BAND
SELECTOR
SWITCH

SB4
FM MODE
SELECTOR
SWITCH

S501 BAND MUTING
SWITCH

ST1~14
REC/PLAY
SELECTOR
SWITCH

S101~114
PRESET SELECTOR
SWITCH

SF3
FUNCTION
MUTING
SWITCH

SF1,2,4
FUNCTION SELECTOR
SWITCH

VR503,504
TREBLE
CONTROL

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AM																								
FM																								

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
MW																								
LW																								

* This diagram might be modified without notice for further development of technology.

WIRING CONNECTION

P3

P7

P11

P14

P2

P9

P8

ERASE HEAD

R/P HEAD

SECONDARY

POWER TRANSFORMER

PRIMARY

S4 TAPE MOTOR SWITCH
S5 TAPE PLAYBACK SWITCH
S6 TAPE FF/REW SWITCH

S701 SPEAKER SELECTOR SWITCH

S4

S5

S6

DC MOTOR

S3 WDS SWITCH

S1 POWER SWITCH

AC CORD

S401 INDEX MIC SWITCH

VR403,404 REC VR

VR503,504 TREBLE CONTROL

VR501,502 BASS CONTROL

VR505,506 MAIN VR

SW702 LOUDNESS SWITCH

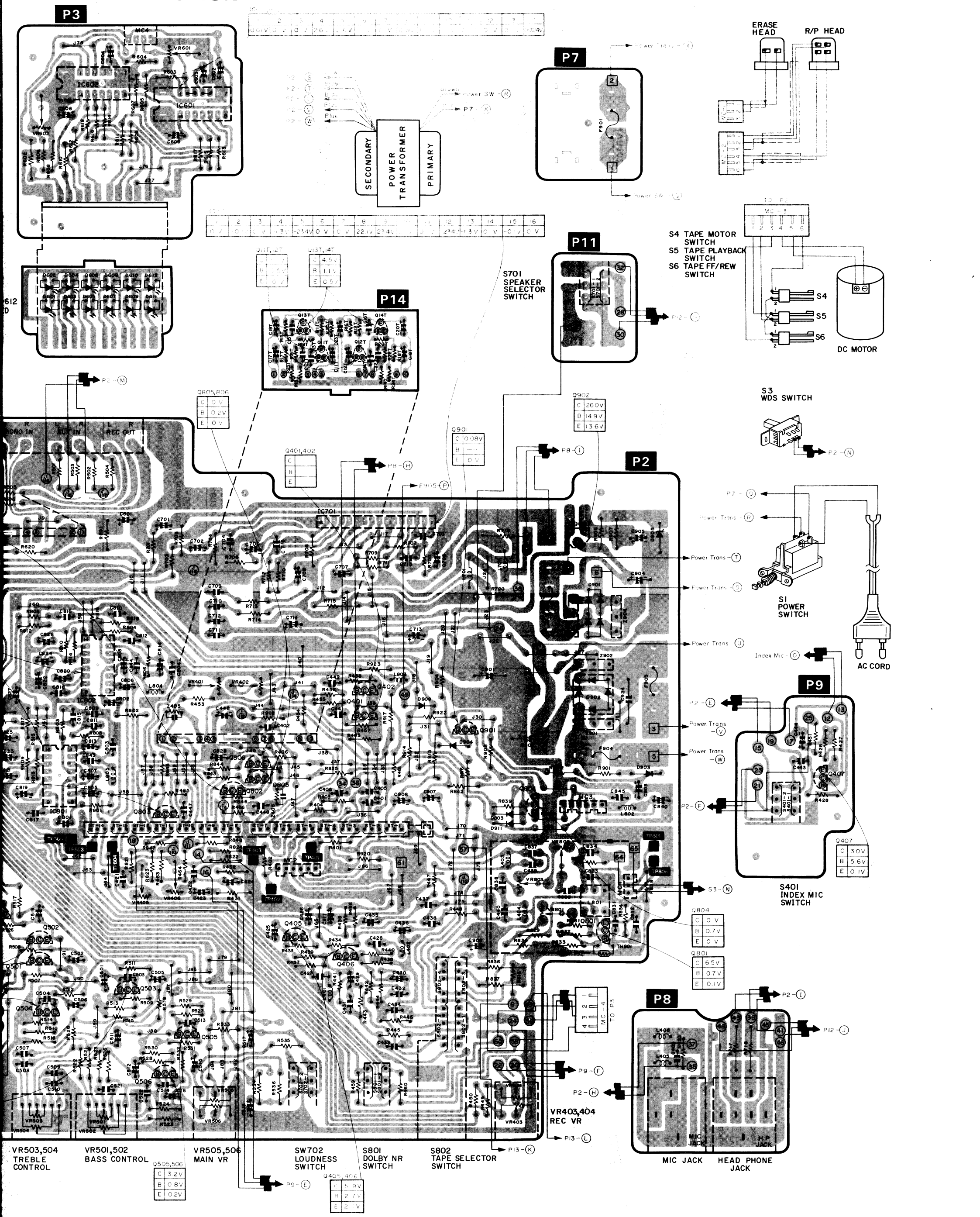
S801 DOLBY NR SWITCH

S802 TAPE SELECTOR SWITCH

MIC JACK

HEAD PHONE JACK

WIRING CONNECTION



REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Per Set (pcs.)
TUNER			
Z102	ENF3JE01-1	FM Tuner	1
PACKINGS			
PC1	SPN4696	Carton Box	1
PC2	SPN4698	Side Pack (L)	1
PC3	SPN4700	Side Pack (R)	1
PC4	SPN2896	Pad, T.T Sheet	1
PC5	XZB60X56C05S	Set Cover	1
OTHERS			
1	SQX50422	Instruction Book (SEV, OVE, GFO, OF)	1
2	SQX50424	Instruction Book (SEM, NEM, DEM, FIM)	1
3	SSA267	ANT Feeder	1

Numbering System of Resistor

Type	Wattage	Tolerance	Value
Three Letters	One or Two Letters	Two or Three Letters	Three or Four Letters

Example:

E R D 2 5 T J 1 0 1

Resistor Type	Tolerance
ERD: Carbon Film ERC: Solid ERX: Metal Film ERG: Metal Oxide Film ERO: High Stability Metal Film ERF: Flameproof Wire-Wound Bath-Tube ERQ: Fuse Type Metal Film RRD: Chip	F: ±1% J: ±5% K: ±10%

Ref. No.	Part No.	Description (Unit: Ω)		Per Set (pcs.)
RESISTORS				
R11H, 12H	RRD18XK821	820	1/8W	2
R11T, 12T	ERD25TJ104	100k	1/4W	2
R13H, 14H	RRD18XJ563	56k	1/8W	2
R13T, 14T	RRD18XK101	100	1/8W	2
R15H, 16H	ERD25TJ104	100k	1/4W	2
R15T, 16T	ERD18XJ103	10k	1/8W	2
R17H, 18H	RRD18XK821	820	1/8W	2
R17T, 18T	RRD18XK102	1k	1/8W	2
R19H, 20H	RRD18XK822	8.2k	1/8W	2
R19T, 20T	RRD18XK224	220k	1/8W	2
R21H, 22H	RRD18XK102	1k	1/8W	2
R21T, 22T	RRD18XK224	220k	1/8W	2
R23H, 24H	RRD18XK334	330k	1/8W	2
R23T, 24T	RRD18XK822	8.2k	1/8W	2
R25H, 26H	RRD18XK684	680k	1/8W	2
R25T	RRD18XJ333	33k	1/8W	1
R27H, 28H	RRD18XK223	22k	1/8W	2
R29H	RRD18XJ333	33k	1/8W	1
R101	ERD25FJ102	1k	1/4W	1
R102	ERD25FJ562	5.6k	1/4W	1
R103 ⚠	ERG1ANJ470	47	1W	1
R104	ERD25FJ222	2.2k	1/4W	1
R112	ERD25FJ560	56	1/4W	1
R201	ERD25FJ471	470	1/4W	1
R203	ERD25FJ331	330	1/4W	1
R204	ERD25FJ102	1k	1/4W	1
R205	ERD25FJ331	330	1/4W	1
R206	ERD25FJ152	1.5k	1/4W	1
R207	ERD25TJ333	33k	1/4W	1
R208	ERD25FJ332	3.3k	1/4W	1
R209	ERD25FJ103	10k	1/4W	1
R210	ERD25TJ224	220k	1/4W	1
R211	ERD25FJ682	6.8k	1/4W	1
R212	ERD25TJ333	33k	1/4W	1
R213	ERD25FJ101	100	1/4W	1

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description (Unit: Ω)		Per Set (pcs.)
R215	ERD25FJ331	330	1/4W	1
R216	ERD25TJ473	47k	1/4W	1
R217	ERD25FJ103	10k	1/4W	1
R218	ERD25FJ331	330	1/4W	1
R219	ERD25FJ182	1.8k	1/4W	1
R220	ERD25FJ392	3.9k	1/4W	1
R221	ERD25FJ682	6.8k	1/4W	1
R222	ERD25FJ222	2.2k	1/4W	1
R223	ERD25TJ563	56k	1/4W	1
R224 ⚠	ERG1ANJ470	47	1W	1
R225	ERD25TJ473	47k	1/4W	1
R230, 231	ERD25TJ104	100k	1/4W	2
R232	ERD25TJ153	15k	1/4W	1
R235	ERD25FJ331	330	1/4W	1
R236	ERD25FJ222	2.2k	1/4W	1
R237	ERD25TJ224	220k	1/4W	1
R238	ERD25TJ333	33k	1/4W	1
R239, 240	ERD25TJ104	100k	1/4W	2
R241	ERD25TJ224	220k	1/4W	1
R242	ERD25FJ102	1k	1/4W	1
R245	ERD25FJ822	8.2k	1/4W	1
R253	ERD25TJ224	220k	1/4W	1
R255	ERD25FJ561	560	1/4W	1
R301	ERD25FJ682	6.8k	1/4W	1
R302	ERD25FJ332	3.3k	1/4W	1
R303	ERD25TJ333	33k	1/4W	1
R304	ERD25FJ102	1k	1/4W	1
R305	ERD25FJ152	1.5k	1/4W	1
R306	ERD25FJ332	3.3k	1/4W	1
R307, 308	ERD25FJ392	3.9k	1/4W	2
R309	ERD25FJ332	3.3k	1/4W	1
R310	ERD25FJ103	10k	1/4W	1
R311, 312	ERD25TJ153	15k	1/4W	2
R313	ERD25FJ681	680	1/4W	1
R314	ERD25FJ682	6.8k	1/4W	1
R315	ERD25FJ222	2.2k	1/4W	1
R316	ERD25FJ103	10k	1/4W	1
R330	ERD25FJ103	10k	1/4W	1
R401, 402	ERD25FJ100	10	1/4W	2
R403, 404	ERD25FJ102	1k	1/4W	2
R405, 406	ERD25TJ104	100k	1/4W	2
R423	ERD25TJ332	3.3k	1/4W	1
R426, 427	ERD25FJ272	2.7k	1/4W	2
R428	ERD25FJ103	10k	1/4W	1
R431, 432	ERD25FJ332	3.3k	1/4W	2
R433, 434	ERD25TJ334	330k	1/4W	2
R435, 436	ERD25FJ152	1.5k	1/4W	2
R437, 438	ERD25FJ681	680	1/4W	2
R439, 440	ERD25FJ470	47	1/4W	2
R441, 442	ERD25FJ152	1.5k	1/4W	2
R443, 444	ERD25FJ102	1k	1/4W	2
R445, 446	ERD25FJ102	1k	1/4W	2
R447, 448	ERD25FJ103	10k	1/4W	2

Ref. No.	Part No.	Description (Unit: Ω)		Per Set (pcs.)
R449, 450	ERD25TJ104	100k	1/4W	2
R451	ERD25FJ472	4.7k	1/4W	1
R453, 454	ERD25FJ472	4.7k	1/4W	2
R455, 456	ERD25FJ562	5.6k	1/4W	2
R457, 458	ERD25TJ224	220k	1/4W	2
R459, 460	ERD25FJ103	10k	1/4W	2
R461	ERD25FJ103	10k	1/4W	1
R463, 464	ERD25TJ153	15k	1/4W	2
R465, 466	ERD25FJ103	10k	1/4W	2
R501, 502	ERD25TJ333	33k	1/4W	2
R503, 504	ERD25TJ153	15k	1/4W	2
R505, 506	ERD25FJ222	2.2k	1/4W	2
R507, 508	ERD25FJ182	1.8k	1/4W	2
R509, 510	ERD25TJ155	1.5M	1/4W	2
R511, 512	ERD25FJ472	4.7k	1/4W	2
R513, 514	ERD25FJ821	820	1/4W	2
R515, 516	ERD25TJ153	15k	1/4W	2
R517	ERD25FJ182	1.8k	1/4W	1
R519, 520	ERD25TJ223	22k	1/4W	2
R521, 522	ERD25TJ823	82k	1/4W	2
R523, 524	ERD25FJ222	2.2k	1/4W	2
R525, 526	ERD25FJ472	4.7k	1/4W	2
R527, 528	ERD25TJ155	1.5M	1/4W	2
R529, 530	ERD25FJ682	6.8k	1/4W	2
R531, 532	ERD25FJ331	330	1/4W	2
R533, 534	ERD25TJ183	18k	1/4W	2
R535, 536	ERD25TJ153	15k	1/4W	2
R540, 541	ERD25FJ102	1k	1/4W	2
R601	ERD25FJ102	1k	1/4W	1
R602	ERD50FJ391	390	1/2W	1
R603, 604	ERD50FJ682	6.8k	1/4W	2
R605, 606	ERD25TJ473	47k	1/4W	2
R607, 608	ERD25FJ222	2.2k	1/4W	2
R609, 610	ERD25FJ220	22	1/4W	2
R611, 612	ERD25FJ220	22	1/4W	2
R613, 614	ERD25FJ220	22	1/4W	2
R615, 616	ERD25FJ101	100	1/4W	2
R617, 618	ERD25FJ101	100	1/4W	2
R619, 620	ERD25TJ153	15k	1/4W	2
R621, 622	ERD25TJ123	12k	1/4W	2
R701, 702	ERD25FJ102	1k	1/4W	2
R703, 704	ERD25TJ333	33k	1/4W	2
R705, 706	ERD25FJ221	220	1/4W	2
R707, 708	ERD25TJ333	33k	1/4W	2
R709, 710	ERD25FJ102	1k	1/4W	2
R711, 712	ERD25FJ332	3.3k	1/4W	2
R713, 714	ERD25FJ4R7	4.7	1/4W	2
R715 ⚠	ERQ12HJ101	100	1/2W	1
R717, 718	ERC12GK331	330	1/2W	2
R719, 720 ⚠	ERG1ANJP220	22	1W	2
R801, 802	ERD25FJ102	1k	1/4W	2
R803, 804	ERD25FJ332	3.3k	1/4W	2
R805, 806	ERD25TJ473	47k	1/4W	2
R807, 808	ERD25FJ181	180	1/4W	2

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description (Unit: Ω)		Per Set (pcs.)
R809, 810	ERD25TJ184	180k	1/4W	2
R811, 812	ERD25TJ105	1M	1/4W	2
R813, 814	ERD25TJ274	270k	1/4W	2
R815, 816	ERD25FJ102	1k	1/4W	2
R817, 818	ERD25FJ102	1k	1/4W	2
R821, 822	ERD25TJ333	33k	1/4W	2
R823, 824	ERD25FJ822	8.2k	1/4W	2
R825	ERD25FJ103	10k	1/4W	1
R829	ERD25TJ473	47k	1/4W	1
R830	ERD25FJ222	2.2k	1/4W	1
R831	ERD25FJ472	4.7k	1/4W	1
R832, 833	ERD25TJ153	15k	1/4W	2
R834	ERD25FJ4R7	4.7	1/4W	1
R835	ERD25TJ104	100k	1/4W	1
R836 ⚠	ERG1ANJP221	220	1W	1
R837 ⚠	ERG1ANJP121	120	1W	1
R838	ERD25FJ1R0	1	1/4W	1
R839	ERD25TJ474	470k	1/4W	1
R840	ERD25FJ103	10k	1/4W	1
R842	ERD25FJ152	1.5k	1/4W	1
R843, 844	ERD25FJ681	680	1/4W	2
R845, 846	ERD25FJ682	6.8k	1/4W	2
R847, 848	ERD25FJ102	1k	1/4W	2
R901	ERD25TJ473	47k	1/4W	1
R902	ERD25FJ472	4.7k	1/4W	1
R903, 904	ERD25FJ103	10k	1/4W	2
R905 ⚠	ERQ12HJ100	10	1/2W	1
R906	ERD25FJ222	2.2k	1/4W	1
R907	ERD25FJ221	220	1/4W	1
R908 ⚠	ERQ12HJ330	33	1/2W	1
R912	ERD25FJ222	2.2k	1/4W	1
R914 ⚠	ERQ12HJ100	10	1/2W	1
R915 ⚠	ERQ12HJ220	22	1/2W	1
R916 ⚠	ERQ12HJ100	10	1/2W	1
R917 ⚠	ERG1ANJ470	47	1W	1
R918 ⚠	ERD25FJ102	1k	1/4W	1
R920	ERD25FJ331	330	1/4W	1
R922 ⚠	ERQ12HJ100	10	1/2W	1
R923	ERD25FJ332	3.3k	1/4W	1
R925	ERD25TJ153	15k	1/4W	1
R926	ERD25TJ104	100k	1/4W	1
R927	ERD25FJ102	1k	1/4W	1

Numbering System of Capacitor

Type	Voltage	Value	Tolerance
Four Letters	One or Two Letters	Two to Five Letters	One or Two Letters

Example:

E C K D 1 H 3 3 3 M D

Capacitor Type	Tolerance
ECCD: Temperature Compensating Ceramic	C: ±0.25pF
ECKD: High Dielectric Constant Ceramic	D: ±0.5pF
ECQM: Polyester	F: ±1pF
ECQP: Polypropylene Film	J: ±5%
ECQS: Polystyrene Film	K: ±10%
ECFD: Semiconductor Ceramic	M: ±20%
ECEA: Electrolytic	P: +100, −0%
ECEB: Electrolytic	Z: +80, −20%
ECET: Electrolytic	
ECSF: Tantalum	
ECUX: Chip	

Ref. No.	Part No.	Description (Unit: μF)		Per Set (pcs.)
CAPACITORS				
C11H, 12H	ECEA50Z1	1	50V	2
C11T, 12T	ECEA25M4R7R	4.7	25V	2
C13H, 14H	ECUX1H102MD	0.001	50V	2
C13T, 14T	ECUX1H102MD	0.001	50V	2
C15H, 16H	ECUX1H470KC	47 pF	50V	2
C17H, 18H	ECEA50Z1	1	50V	2
C17T, 18T	ECEA1HS100	10	50V	2
C19H, 20H	ECUX1H103MD	0.01	50V	2
C19T, 20T	ECEA1HS100	10	50V	2
C21H, 22H	ECUX1H332MD	0.0033	50V	2
C21T, 22T	ECUX1H153MD	0.015	50V	2
C23H	ECEA1AS221	220	10V	1
C23T	ECEA1AS221	220	10V	1
C101	ECKD1H103ZF	0.01	50V	1
C102	ECEA50Z3R3	3.3	50V	1
C103	ECKD1H103ZF	0.01	50V	1
C104, 105	ECEA1HS100	10	50V	2
C106	ECEA1HS100	10	50V	1
C107, 108	ECKD1H223ZF	0.022	50V	2
C110	ECKD1H223ZF	0.022	50V	1
C201	ECFD1V223KD	0.022	35V	1
C202	ECKD1H103ZF	0.01	50V	1
C203	ECFD1V223KD	0.022	35V	1
C204	ECEA1HS100	10	50V	1
C205	ECEA1AS221	220	10V	1
C206	ECEA1HS100	10	50V	1
C207	ECCD1H330K	33 pF	50V	1
C208	ECEA50Z3R3	3.3	50V	1
C209	ECFD1V473KD	0.047	35V	1
C211	ECCD1H300K	30 pF	50V	1
C212	ECEA50Z1	1	50V	1
C213	ECQS1471JZ	470 pF	125V	1
C214	ECCD1H220K	22 pF	50V	1
C215	ECQS1221JZ	220 pF	125V	1
C216	ECCD1H820K	82 pF	50V	1

SG-40

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description (Unit: μF)		Per Set (pcs.)
C217	ECCD1H220K	22 pF	50V	1
C218	ECFD1V153KD	0.015	35V	1
C219	ECFD1V103KD	0.01	35V	1
C220	ECKD1H223ZF	0.022	50V	1
C221	ECEA25Z4R7	4.7	25V	1
C222	ECEA50Z1	1	50V	1
C223	ECCD1H151K	150 pF	50V	1
C224	ECCD1H080D	8 pF	50V	1
C225	ECEA50Z1	1	50V	1
C226	ECCD1H151K	150 pF	50V	1
C227	ECEA25Z4R7	4.7	25V	1
C228	ECFD1V223KD	0.022	35V	1
C229	ECEA25Z4R7	4.7	25V	1
C230	ECKD1H223ZF	0.022	50V	1
C231, 232	ECFD1V223KD	0.022	35V	2
C233	ECEA1ES470	47	25V	1
C234, 235	ECKD1H103ZF	0.01	50V	2
C236	ECKD1H103ZF	0.01	50V	1
C237	ECEA50MR1R	0.1	50V	1
C238	ECKD1H223ZF	0.022	50V	1
C239	ECFD1V223KD	0.022	35V	1
C240, 241	ECKD1H223ZF	0.022	50V	2
C243	ECKD1H223ZF	0.022	50V	1
C250	ECKD1H103ZF	0.01	50V	1
C251	ECCD1H221K	220 pF	50V	1
C252	ECKD1H223ZF	0.022	50V	1
C257, 258	ECKD1H223ZF	0.022	50V	2
C301	ECQP1152JZ	1500 pF	125V	1
C302	ECFD1V473KD	0.047	35V	1
C303	ECEA50MR47R	0.47	50V	1
C304	ECEA50MR33R	0.33	50V	1
C305	ECEA1HN010SB	1	50V	1
C306, 307	ECEA50MR1R	0.1	50V	2
C308	ECEA1ES470	47	25V	1
C309, 310	ECFD1V153KD	0.015	35V	2
C311	ECEA25Z4R7	4.7	25V	1
C312, 313	ECEA1ES101	100	25V	2
C401, 402	ECKD1H681KB	680 pF	50V	2
C403	ECKD1H102KB	0.001	50V	1
C405, 406	ECFD1V103KD	0.01	35V	2
C421, 422	ECQM1H393KZ	0.039	50V	2
C423, 424	ECEA50MR68R	0.68	50V	2
C425, 426	ECEA50Z1	1	50V	2
C427, 428	ECFD1V473KD	0.047	35V	2
C429, 430	ECEA50MR15R	0.15	50V	2
C431, 432	ECQM1H473KZ	0.047	50V	2
C433, 434	ECQM1H104KZ	0.1	50V	2
C435, 436	ECEA50Z1	1	50V	2
C437, 438	ECQM1H472KZ	0.0047	50V	2
C439, 440	ECKD1H561KB	560 pF	50V	2
C441, 442	ECQM1H123KZ	0.012	50V	2
C443	ECQM1H223KZ	0.022	50V	1
C444	ECEA1AS470	47	10V	1
C445	ECEA1ES470	47	25V	1

Part No.	Ref. No.	Description (Unit: μF)		Per Set (pcs.)
C447, 448	ECFD1V683MD	0.068	35V	2
C501, 502	ECEA50Z1	1	50V	2
C503, 504	ECKD1H471KB	470 pF	50V	2
C505, 506	ECEA50Z1	1	50V	2
C507, 508	ECKD1H152KB	0.0015	50V	2
C509, 510	ECFD1V183KD	0.018	35V	2
C511, 512	ECEA50MR33R	0.33	50V	2
C513, 514	ECKD1H471KB	470 pF	50V	2
C515, 516	ECEA50M1R	1	50V	2
C517, 518	ECEA50MR1R	0.1	50V	2
C519	ECEA1CS221	220	16V	1
C521, 522	ECFD1V223KD	0.022	35V	2
C601	ECEA1CS471	470	16V	1
C602	ECEA1ES101	100	25V	1
C603, 604	ECEA1HS100	10	50V	2
C605, 606	ECEA1CS330	33	16V	2
C701, 702	ECEA50Z1	1	50V	2
C703, 704	ECKD1H471KB	470 pF	50V	2
C705, 706	ECEA1AS470	47	10V	2
C707, 708	ECEA1ES470	47	25V	2
C709, 710	ECQM1H104KZ	0.1	50V	2
C711, 712	ECQM1H104KZ	0.1	50V	2
C713	ECEA1VS101	100	35V	1
C714	ECEA1VS221	220	35V	1
C715, 716	ECCD1H080D	8 pF	50V	2
C801, 802	ECEA50MR68R	0.68	50V	2
C803, 804	ECFD1H222KD	0.0022	50V	2
C805, 806	ECEA1HS100	10	50V	2
C807, 808	ECEA1HS100	10	50V	2
C809 ,810	ECQP1273JZ	0.027	125V	2
C811, 812	ECQP1472JZ	4700 pF	125V	2
C813, 814	ECEA1CS100	10	16V	2
C815, 816	ECQP1562JZ	5600 pF	125V	2
C817, 818	ECQP1473JZ	0.047	125V	2
C819, 820	ECEA1HS100	10	50V	2
C821, 822	ECEA50MR1R	0.1	50V	2
C823, 824	ECEA50MR33R	0.33	50V	2
C825, 826	ECEA1AS221	220	10V	2
C827	ECEA1ES101	100	25V	1
C828	ECEA1HS100	10	50V	1
C831	ECQM1H123KZ	0.012	50V	1
C832	ECQM1H683KS	0.068	50V	1
C833	ECQP1472JZ	4700 pF	125V	1
C834	ECQP1122JZ	1200 pF	125V	1
C835	ECQP1152JZ	1500 pF	125V	1
C837, 838	ECKD1H331KB	330 pF	50V	2
C840	ECEA1CS221	220	16V	1
C843, 844	ECKD1H271KB	270 pF	50V	2
C845	ECKD1H103ZF	0.01	50V	1
C901, 902 ⚠	ECET35R332SW	3300	35V	2
C903	ECEA1HS100	10	50V	1
C904 ⚠	ECEA1VS102	1000	35V	2
C905	ECEA1HS101	100	50V	1

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description (Unit: μF)		Per Set (pcs.)
C906	ECEA1ES220	22	25V	1
C907	ECEA1ES101	100	25V	1
C908	ECEA1CS221	220	16V	1
C911	ECEA1ES470	47	25V	1
C914	ECKD1H223ZF	0.022	50V	1
C915	ECEA50Z1	1	50V	1
C920	ECEA1HS100	10	50V	1
C922	ECKD1H223ZF	0.022	50V	1
C924	ECQM1224MZ	0.22	100V	1

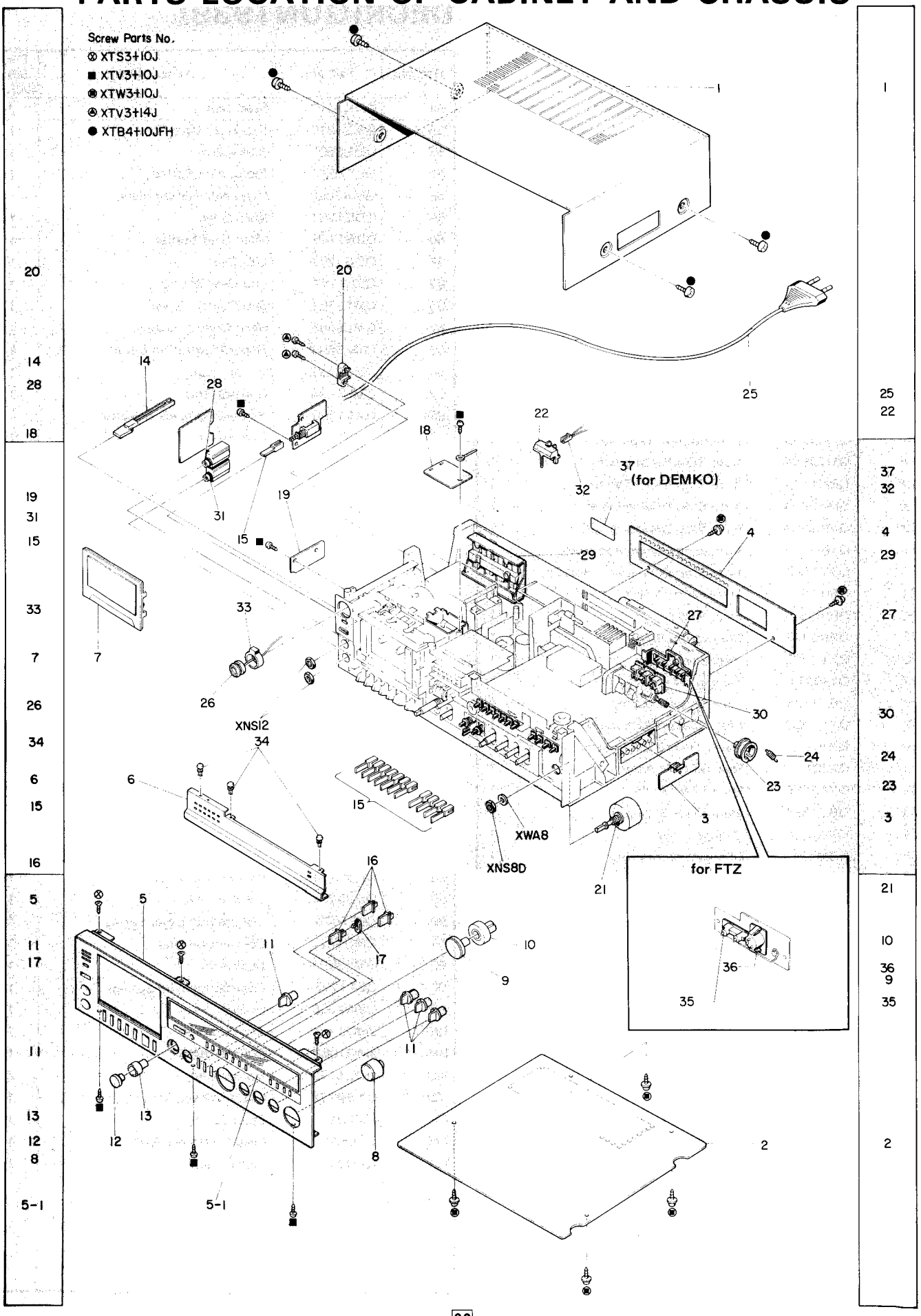
Ref. No.	Part No.	Description (Unit: μF)	Per Set (pcs.)

REPLACEMENT PARTS LIST OF CABINET AND CHASSIS

Ref. No.	Part No.	Description	Per Set (pcs.)
1	SKA4020	Cabinet	1
2	SYU454	Bottom Cover Ass'y	1
3	SKE376	Preset VR Lid	1
4	SKU5680	Rear Cover	1
4	SKU5681	Rear Cover (for FTZ)	1
5	SYP614	Escutcheon Ass'y	1
5-1	SGX1360	Button, Ornament	(1)
6	SKD5580	Dial Scale	1
7	SYE820-5	Cassette Lid Ass'y	1
8	SBN1012-1	Knob, Tuning	1
9	SBN1050	Knob, Volume (L)	1
10	SBN1052	Knob, Volume (R)	1
11	SBN1048	Knob, Select	4
12	SBN1064	Knob, Rec VR (L)	1
13	SBN1066	Knob, Rec VR (R)	1
14	SYE806	Button, Power	1
15	SBC458-1	Button, Preset	12
16	QGO1693	Button, Speaker	3
17	SUE72	Spacer, Button	1
18	SMX250	Insulator Cover, Fuse	1
19	SMX252	Insulator Cover, Power	1
20	SHR134	Power Cord Clamp	1
21	SDT93004	Tuning Shaft Ass'y	1
22	SDP5094	Dial Pointer	1
23	SDD19K	Drum, Dial	1
24	SDS304	Spring, Dial	1
25 ⚠	SJA138	Power Cord	1
26	SJM118	Microphone	1
27	SJF4504	Terminal, Ant	1
28	XCJS6PE12	Jack, Headphone	1
29	SJF5807-2	Jack, Speaker	1
30	SJF3606	Jack, Aux	1
31	XCJS6PA4	Jack, Microphone	1
32	SWE112	Lamp Ass'y	1
33	SHG9170	Rubber, Mic	1
34	RHR969ZA	Latch (3.5 x 4.5 mm)	4
35	SJS9228	AM ANT Socket (for FTZ)	1
36	SJS9226	FM ANT Socket (for FTZ)	1
37	SGN6340	Name Plate (for DEMKO)	1

Ref. No.	Part No.	Description	Per Set (pcs.)

PARTS LOCATION OF CABINET AND CHASSIS

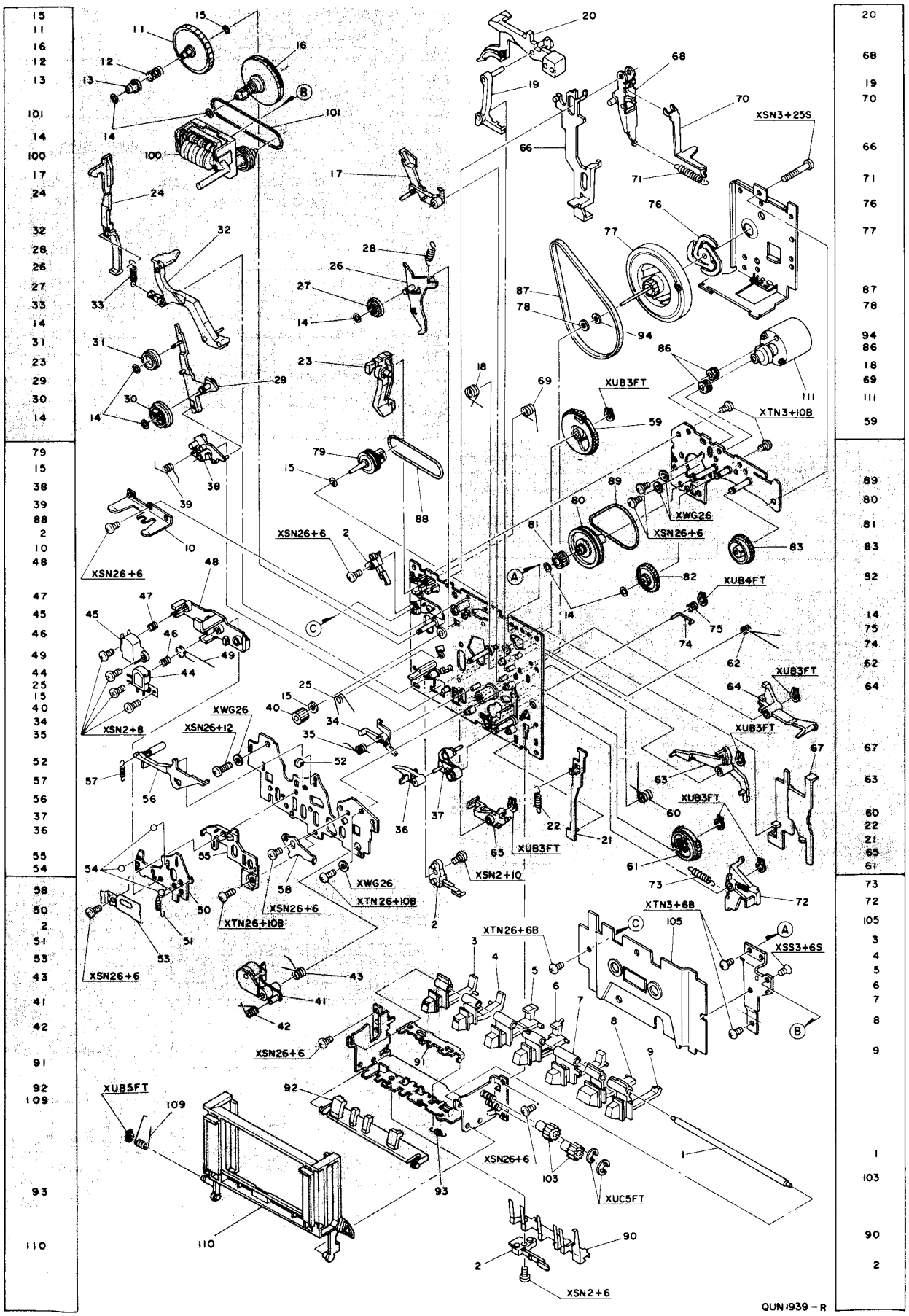


REPLACEMENT PARTS LIST OF CASSETTE TAPE DECK(QUN1939)

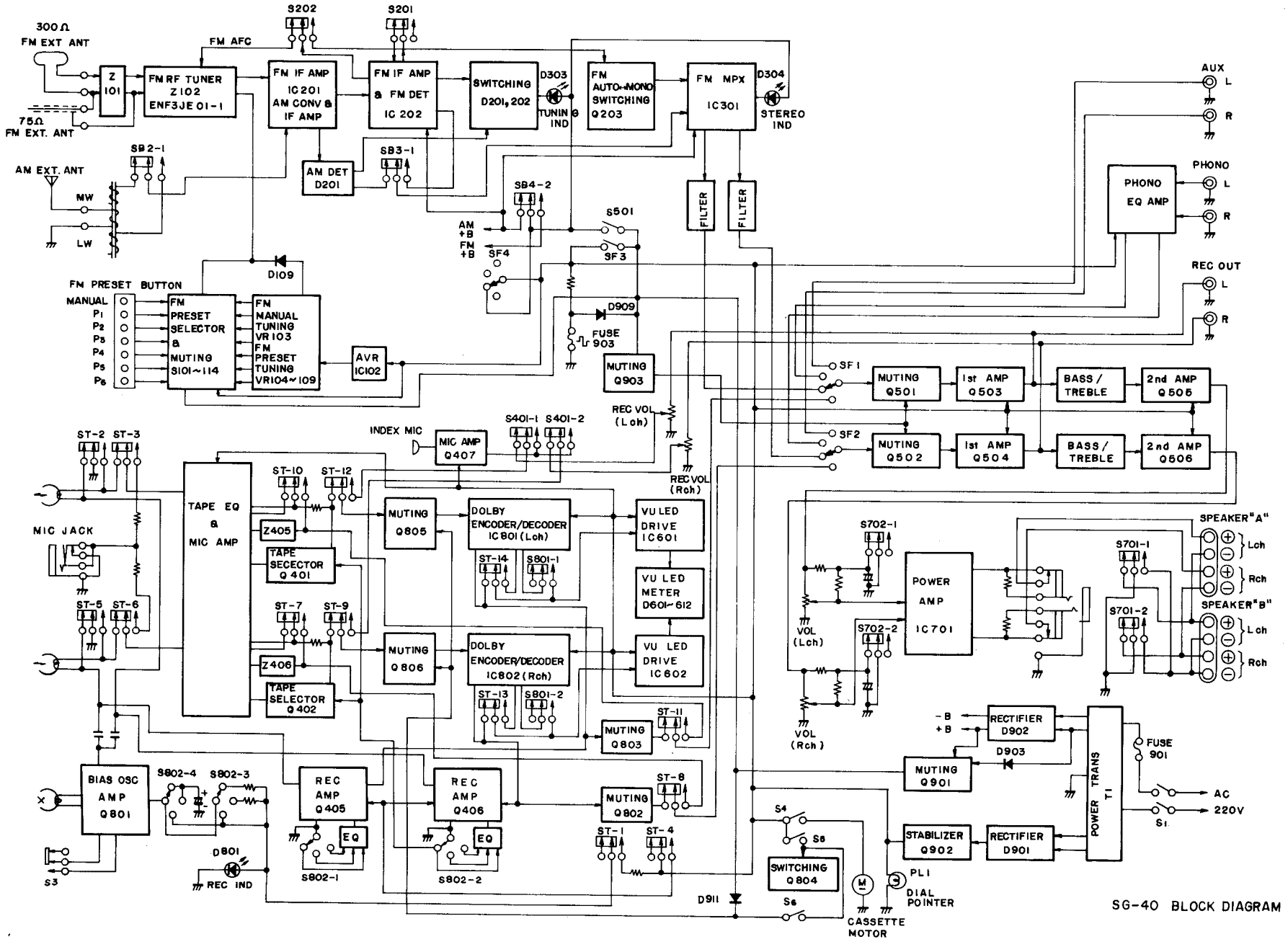
Ref. No.	Part No.	Description	Per Set (pcs.)
1	QMN2554	Operation Lever Shaft	1
2	QSB0253M	Leaf Switch	3
3	SMQ3720	Eject Button Ass'y	1
4	SMQ3722	Record Button Ass'y	1
5	SMQ3724	Rewind/Review Button Ass'y	1
6	SMQ3726	Fast Forward/Cue Button Ass'y	1
7	SMQ3728	Playback Button Ass'y	1
8	SMQ3730	Stop Button Ass'y	1
9	SMQ3732	Pause Button Ass'y	1
10	QBP1874	Cassette Pressure Spring	1
11	QDR1139	Supply Reel Table	1
12	QBC1372	Reel Table Spring	1
13	QMB1336	Supply Reel Table Hub	1
14	QBW2008	Poly Washer	7
15	QBW2012	Poly Washer	3
16	QXD1143	Take up Reel Table Ass'y	1
17	QML3594	Auto Stop Release Arm	1
18	QBN1746	Auto Stop Lever Spring	1
19	QML3604	Auto Stop Driving Lever	1
20	QML3605	Auto Stop Detection Lever	1
21	QMR1821	Auto Stop Connection Rod	1
22	QBT1682	Auto Stop Connection Rod Spring	1
23	QML3603	Erase Safety Lever	1
24	QMR1822	Eject Rod	1
25	QBN1747	Connection Spring	1
26	QXL1382	Idler Lever Ass'y	1
27	QXI0111	Take up Idler Ass'y	1
28	QBT1893	Take up Idler Spring	1
29	QXL1383	Fast Forward Arm Ass'y	1
30	QXI0113	Fast Forward Idler Ass'y	1
31	QXI0112	Rewind Idler Ass'y	1
32	QXL1355	Main Lever Ass'y	1
33	QBT1894	Main Lever Spring	1
34	QML3592	Change Lever	1
35	QBN1741	Change Lever Spring	1
36	QML3586	Head Base Plate Lift Lever	1
37	QXL1354	Sub Lever Ass'y	1
38	QML3588	Fast Forward Lever	1
39	QBN1748	Fast Forward Spring	1
40	QDP1828	Fast Forward Pulley	1
41	QXL1381	Pressure Roller Ass'y	1
42	QBN1742	Pressure Roller Release Spring	1
43	QBN1743	Pressure Roller Spring	1
44	QWY4122Z	Record/Playback Head	1
45	QWY2138Z	Erase Head	1
46	QBC1278	Record/Playback Head Spring	1
47	QBCA0008	Erase Head Spring	1
48	QMZ1241	Head Spacer	1
49	QBN1740	Head Pressure Spring	1
50	QMK1840	Head Base Plate	1
51	QBT1892	Head Release Spring	1
52	QMN2550	Roller	1
53	QBP1873	Head Base Plate Pressure Spring	1

Ref. No.	Part No.	Description	Per Set (pcs.)
54	QDK1017	Steel Ball	3
55	QMZ1240	Sub Head Base Plate	1
56	QML3591	Brake Arm	1
57	QBT1597	Brake Arm Spring	1
58	QMA3858	Head Adjustment Plate	1
59	QDG1201	Main Gear	1
60	QBN1745	Main Gear Spring	1
61	QDG1202	Sub Gear	1
62	QBN1744	Sub Gear Spring	1
63	QML3581	Sub Control Lever	1
64	QML3583	Main Control Lever	1
65	QML3584	Record Operation Lever	1
66	QMR1820	Record Rod	1
67	QMR1824	Control Rod	1
68	QXL1360	Record/Playback Selection Arm Ass'y	1
69	QBN1739	Selection Lever Spring	1
70	QML3580	Record/Playback Selection Lever	1
71	QBT1895	Record/Playback Selection Lever Spring	1
72	QML3582	Pause Lock Lever	1
73	QBT1896	Lever Release Spring	1
74	QBS1128	Lock Pin	1
75	QBC1357	Lock Pin Pressure Spring	1
76	QMZ1239	Flywheel Thrust Retainer	1
77	QXF0164	Flywheel Ass'y	1
78	QBW2094	Poly Washer	1
79	QXP0607	Fast Forward Connection Pulley Ass'y	1
80	QXG1047	Take up Gear Ass'y	1
81	QDP1823	Connection Pulley	1
82	QDG1199	Auto Stop Gear	1
83	QDG1200	Cam Gear	1
86	QBG1689	Rubber Cushion	2
87	QDB0281	Capstan Belt	1
88	QDB0273	Fast Forward Belt	1
89	QDB0274	Take up Belt	1
90	QBP1875	Obstruction Lever Spring	1
91	QMR1823	Obstruction Rod	1
92	QML3593	Lock Arm	1
93	QBT1597	Obstruction Rod Spring	1
94	QBW2026	Washer	1
100	SMQ3238	Tape Counter	1
101	SMQ1988	Counter Belt	1
103	QDG1102	Holder Gear	2
105	QXH0327	Chassis Cover Ass'y	1
109	SUS368	Eject Spring	1
110	SYE874	Cassette Holder Ass'y	1
111	QXU0117A	Motor Ass'y	1

EXPLODED VIEW CASSETTE TAPE DECK (QUN1939)



BLOCK DIAGRAM



SG-40 BLOCK DIAGRAM

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